

**DEVELOPMENT OF EMISSION GROWTH SURROGATES
AND ACTIVITY PROJECTIONS USED IN FORECASTING
POINT AND AREA SOURCE EMISSIONS,
FINAL REPORT**

**Prepared for the California Air Resources Board and the
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ABSTRACT

E.H. Pechan & Associates, Inc., and its subcontractors, Regional Economic Models, Inc. (REMI), and SDV-SCC Inc. have identified the most appropriate growth surrogates for point and non-mobile area sources for emission source categories defined by the California Air Resources Board (ARB). Historical data and projections of the surrogates were made under four growth scenarios for the years 1970 to 2030.

TABLE OF CONTENTS (continued)

Category 09. CES 82123 - Residential Wood Combustion, Fireplaces	32
Category 10. CES 54569 - Residential Fuel Combustion-Space Heating, Natural Gas	34
Category 11. CES 54577 - Residential Fuel Combustion-Water Heating, Natural Gas	34
Category 12. CES 47332 - Agricultural Land Preparation	35
Category 13. CES 47340 - Farming Operations, Cattle Feedlot Dust	35
Category 14. CES 47357 - Building Construction Dust, Residential	37
Category 15. CES 47365 - Building Construction Dust, Commercial	38
Category 16. CES 47381 - Road Construction Dust	38
Category 17. CES 47399 - Unpaved Road Travel Dust-City and County Roads	39
Category 18. CES 47423 - Unpaved Road Travel Dust-Bureau of Land Management and Bureau of Indian Affairs Roads	40
Category 19. CES 47431 - Unpaved Road Travel Dust-Farm Roads	40
Category 20. CES 83337 - Fugitive Windblown Dust from Agricultural Lands (Non-Pasture)	41
Category 21. CES 83352 - Fugitive Windblown Dust from Unpaved Roads and Associated Areas	41
Category 22. SCC 10100601; SIC code 4931 - Electric Generation, Natural Gas, Boilers > 100 MMBtu except Tangential	42
Category 23. SCC 10100601; SIC code 4911 - Electric Generation, Natural Gas, Boilers > 100 MMBtu except Tangential	43
Category 24. CES 74682 - Cogeneration, Fuel Unspecified	43
Category 25. CES 82081 - I.C. Reciprocating Engines, Gaseous Fuel (Unspecified) (Oil and Gas Production)	43
Category 26. SCC 20200202; SIC code 1311 - I.C. Engines, Reciprocating, Natural Gas (Industrial)	44
Category 27. SCC 30600106; SIC code 2911 - Process Heaters, Process Gas-Fired (Petroleum Industry)	44
Category 28. CES 66787 - Internal Combustion (I.C.) Reciprocating Engines, Natural Gas (Manufacturing and Industrial)	44
Category 29. CES 47142 - Fuel Combustion, Other, Natural Gas (Manufacturing and Industrial)	45
Category 30. CES 83071 - Fuel Combustion, Other, Residual Oil (Manufacturing and Industrial)	45
Category 31. CES 83998 - Agricultural Irrigation, I.C. Engines, Diesel/Distillate Oil (Food and Agricultural Processing)	45
Category 32. CES 47233 - Fuel Combustion, Other, Liquid Fuel (Unspecified) (Food and Agricultural Processing)	45

TABLE OF CONTENTS (continued)

Category 33. CES 47167 - Fuel Combustion, Other, Natural Gas (Service and Commercial)	46
Category 34. CES 47159 - Fuel Combustion, Other, Distillate Oil (Service and Commercial)	46
Category 35. CES 57281 - Class II and III Landfills, Municipal Solid Waste . .	46
Category 36. CES 83659 - Degreasing, Cold Cleaning (Batch, Conveyor, Spray Gun), Petroleum Naphtha	47
Category 37. CES 58685 - Natural Gas Transmission Losses	48
Category 38. SCC 30500606 and SIC code 3241 - Cement Manufacturing (Dry Process)	48
Category 39. CES 85654 - Architectural Coatings, Oil-Based Industrial Maintenance Coating	49
Category 40. CES 85852 - Architectural Coatings, Water-Based Flat Coatings	50
Category 41. CES 46870 - Cutback Asphalt	50
Category 42. CES 66605 - Livestock Wastes	50
Category 43. CES 47241 - Agricultural Burning-Prunings	51
Category 44. CES 47258 - Agricultural Burning-Field Crops	51
Category 45. CES 47282 - Range Improvement	52
Category 46. CES 47274 - Forest Management	52
Category 47. CES 47266 - Weed Abatement	53
Category 48. CES 47290 - Non-agricultural Open Burning	53
Category 49. CES 60418 - Commercial Charbroiling	53
Category 50. SCC 20200202; SIC code 4922 - I.C. Engines, Industrial, Natural Gas, Reciprocating	54
D. ELECTRIC UTILITY-RELATED CATEGORIES	55
SECTION IV. SUMMARY AND CONCLUSIONS	57
A. SUMMARY OF RESULTS	57
B. STUDY LIMITATIONS AND RECOMMENDATIONS	60
SECTION V. REFERENCES	75
GLOSSARY OF TERMS, ABBREVIATIONS, AND SYMBOLS	80
TABLES REFERENCED IN REPORT	82
APPENDIX A. REMI ECONOMIC MODELING BACKGROUND MATERIALS	A-1
APPENDIX B. SAMPLE FRESNO GROWTH ACTIVITY PROFILE (GAP) DATA	B-1

LIST OF FIGURES

Figure IV-1.	Residential Wood Combustion, Fireplaces	62
Figure IV-2.	Agricultural Land Preparation	63
Figure IV-3.	Unpaved Road Travel Dust - City and County Roads	64
Figure IV-4.	Unpaved Road Travel Dust - Bureau of Land Management and Bureau of Indian Affairs Roads	65
Figure IV-5.	Unpaved Road Travel Dust - Farm Roads	66
Figure IV-6.	Fugitive Windblown Dust from Agricultural Lands (Non-Pasture)	67
Figure IV-7.	Fugitive Windblown Dust from Unpaved Roads and Associated Areas	68
Figure IV-8.	Class II and III Landfills, Municipal Solid Waste Landfills	69
Figure IV-9.	Agricultural Burning - Field Crops	70
Figure IV-10.	Residential Wood Combustion, Wood Stoves	71
Figure IV-11.	Paved Entrained Road Dust -Local Streets and -Major Streets	72
Figure IV-12.	Road Construction Dust	73
Figure IV-13.	Comparison of Road Construction Dust Forecast Scenarios	74

LIST OF TABLES

II-1.	Unique List of Non-Fuel Combustion Point Source Growth Parameters	83
II-2.	Non-Fuel Combustion Point Source Growth Parameter Assignments	87
II-3.	Unique List of Fuel Projections Categories Incorporated Into REMI/AEO Growth Parameters	108
II-4.	Fuel Combustion Point Source Growth Parameter Assignments	110
II-5.	Non-Mobile Area Source Growth Parameter Assignments	162
III-1.	Details on Regression-Based Approaches	171
IV-1.	Number of Growth Parameters Included in Each Forecast Scenario	173
IV-2.	List of Growth Parameters Only Included in Best Estimate Forecast Scenario	174

SECTION I INTRODUCTION

Air pollution programs have always depended on predictive models for gaining a better understanding of what emission quantities will be in the future. The results of these models assist in the development of air quality plans; determine how and where air pollution can be reduced most efficiently; track progress toward meeting the requirements of air pollution control mandates; and are used to construct emission trends. California developed the Emission Forecasting System (EFS) in the 1990s to meet the multiple needs for this type of air pollution program planning information. A key component of California's EFS is the growth data.

The objective of this project was to identify the most appropriate growth surrogates for point and non-mobile area source emission categories within the State of California. A key component of this effort was to develop historical and projections data for these surrogates under alternative growth scenarios for the years 1970 to 2030.

Within California's EFS, growth indicators (or surrogates) can be assigned at various levels of detail. For example, indicators can be assigned at the 4-digit or 2-digit Standard Industrial Classification (SIC) code level. Area sources in California's Air Resources Board's (ARB) emissions inventory are identified by an emission inventory code (EIC), or a category of emission source (CES) code, while point sources are identified by a Source Classification Code (SCC) and a Standard Industrial Classification (SIC) code. Area source indicators are typically a mix of economic and non-economic indicators. An example of non-economic indicators for estimating agricultural PM emissions is the number of passes per acre per year by tilling equipment.

This study represented the first formal review of California's assignments of default growth indicators for each emission inventory source category. The information and data produced in this study results in significant improvements in the ability of the State to estimate area source emissions in historical and future years. Improvements in area source activity estimates and resulting emission estimates will make it more likely that California will develop effective control plans for ozone and PM_{2.5} precursors in future years.

The purpose of this report is to describe the efforts employed in identifying and developing emission growth surrogates for point and non-mobile area sources. E.H. Pechan and Associates, Inc.'s subcontractor, Regional Economic Models, Inc. (REMI) has developed economic models for each county in California. These models are based on historical data through the year 1997 and provide forecast data for four alternative growth scenarios (best estimate/most reasonable, optimistic/high growth, pessimistic/low growth, and cyclical) through the year 2035. These data provide socioeconomic indicators (e.g., employment and constant dollar output) for use as emission growth surrogates. For many point and non-mobile area source categories, Pechan assigned one of these REMI socioeconomic indicators to represent trends in emissions activity.

As part of this effort, Pechan has provided ARB with a list of growth surrogate assignments for each ARB point and non-mobile area source category. Pechan compiled this list in ARB's Parameter Assignment Data (PAD) file format. This list was developed based on a review of ARB's current growth surrogates, Pechan's experience in developing emission projections for various EPA regulatory efforts, and growth surrogate assignments from the United States (U.S.) Environmental Protection Agency's (EPA's) forthcoming Version 4.0 of the Economic Growth Analysis System (EGAS). (The EGAS employs REMI socioeconomic indicators as growth surrogates for most point and non-mobile area emission source categories.)

Under Tasks 2 and 3 of this contract, Pechan carried out a more detailed analysis of potential growth surrogates for 50 individual source categories. The source categories identified for detailed analysis were first determined based on source categories with the highest state-level 1996 criteria pollutant emissions. ARB staff then made some adjustments to the initial list based on other criteria that ARB wanted to consider (e.g., the "high profile" nature of certain source categories). The final list for detailed review contained 37 of the 50 highest-emitting categories and 13 categories specifically selected by ARB.

Under Task 2, Pechan conducted research into the availability of historical emissions activity data for these categories. This effort began with a review of ARB's base year emissions estimation methodologies. To the extent possible, Pechan applied ARB's methodologies in compiling a long-term historical data series for each of these 50 source categories. Under Task 3, Pechan researched the availability of forecasting data for these 50 source categories; for most emission activities, forecast data were not available. When forecast data were not available, Pechan conducted multiple regression analysis to identify socioeconomic variables from REMI's economic models that correlate with these emission activities. Based on the presence of a statistically significant relationship between the historical emissions activity data developed under Task 2, and one or more REMI socioeconomic variables, Pechan computed 1970-2030 data using the equation identified from the regression analysis. Pechan then reviewed these data to identify any data anomalies that necessitated adjustments to the regression-based approach. In a number of instances, the surrogate growth data indicated very large percentage changes in emissions activity over the forecast period. In such cases, Pechan reviewed the historical data used in the regression analysis to identify any explanations why the data series may not be representative of long-term trends. For example, the available 1990-1998 data on methyl bromide use indicates a dramatic drop in use over this period for structural applications. There were two developments in the 1990s that led to this uncharacteristic reduction – the Montreal Protocol and the California Department of Pesticide Regulation's strengthened pesticide use reporting requirements. Based on professional judgement, Pechan then adjusted the regression-based data to provide a more reasonable representation of long-term trends. Pechan compiled the final emission growth surrogate data into four sets of files in ARB's Growth Activity Profile (GAP) file format.

The remainder of this report is organized as follows. Section II identifies the growth parameter assignments for point and non-mobile source categories. This section also describes how Pechan compiled growth parameter assignment information in PAD file format. Section III discusses the REMI/Pechan methodologies for developing growth surrogate data for the 1970-2030 period for each of the growth parameters included in the PAD file. This discussion includes the approach Pechan followed in preparing the four sets of growth surrogate data in GAP file

format. A discussion of data sources used in developing these data is also provided in this section. Because ARB later identified particular interest in the growth surrogates assigned to electric utility-related sectors, this section includes a discussion of the growth surrogate data that will be used for these emission sources. Section IV presents a summary of the findings from this study, including sample graphs displaying major trends in the growth parameters assigned to the top twenty highest emitting source categories. This section also presents recommendations for potential future improvements. Section V identifies the references consulted for this study. All tables are located at the end of the report. Appendix A provides additional background materials on REMI's economic modeling methodologies. Appendix B presents sample growth surrogate data for Fresno county, which is located in the San Joaquin Valley Air Basin.

SECTION II

IDENTIFICATION OF GROWTH SURROGATES FOR POINT AND NON-MOBILE AREA SOURCE CATEGORIES

The purpose of this section is to describe the methods and rationale used in determining the most appropriate growth surrogates for ARB point and non-mobile area source categories. Pechan identified growth surrogate assignments based on a review of ARB's current surrogate assignments, Pechan's expertise related to preparing emission projections for various EPA regulatory efforts, and the set of growth surrogate assignments included in Version 4.0 of the EGAS, a growth surrogate projections tool Pechan has developed for EPA (Pechan, 2001). The growth surrogate assignments for point sources are described first. The point source discussion is organized into fuel combustion and non-fuel combustion sections. This is followed by a description of Pechan's approach for assigning growth surrogates to non-mobile area source categories.

A. POINT SOURCES

1. Non-Fuel Combustion Sectors

In developing the point source growth surrogate assignments, the initial question is whether to use the SCC, the SIC code, or a combination of the SCC and SIC code information in selecting an appropriate surrogate. Based on a review of the current ARB point source growth surrogate assignments, Pechan determined that the general ARB approach is to use SIC code information as the basis for the growth parameter assignment. For example, an inventory record classified in SCC 10100501–External Combustion Boilers, Electric Generation, Distillate Oil, Grades 1 and 2 Oil, currently uses output data for SIC code 24-Lumber and Wood Products as its growth parameter because the record is associated with SIC code 2499-Wood Products, Not Elsewhere Classified.

For this study, Pechan assigned growth surrogates using SIC code information unless data that are more specific to an SCC's emissions activity were available. In many cases, the SIC code of the point source records in ARB's inventory provides the best available information for projecting the emissions growth for that SIC code. In some instances, however, the growth in the projected SIC code will not capture many of the other factors that can impact the processes (SCCs) that directly relate to future emission levels. Fuel combustion-related SCCs, whose emissions are directly related to the amount of fuel (e.g. coal) burned, represent a clear example of this issue. The methods for identifying growth surrogates for point source fuel combustion sectors are described in the following section.

For this effort, Pechan employed SIC code output (total sales) data as the growth surrogate for all non-fuel combustion SCCs in ARB's point source inventory. Pechan used constant dollar

output data (in billions of 1992 dollars) rather than employment data because employment data will not capture productivity improvements or other changes that may affect the emissions activity per employee. In fact, the most recent guidance from the EPA's Projections Committee of its Emission Inventory Improvement Program states that the "employment level alone is not an effective growth indicator in most cases" (Pechan-Avanti, 1999). It is important to note, however, that absent a detailed analysis of trends in point source emissions, it is not possible to definitively state that output data correlates best with the emissions activity for each point source category.

Table II-1 displays the list of Pechan growth parameters used as growth surrogates for non-fuel combustion point sources in ARB's inventory. This table indicates the growth parameter name used in the PAD file, a description of the information it contains, and the SIC codes to which it is applied. Because REMI's models provide output data for 172 economic sectors, which are roughly equivalent to 3-digit SIC codes, Pechan directly matched each of the 1,082 valid 4-digit SIC codes to the economic sectors in REMI's models. In a few cases, REMI sectors are specified at other than the 3-digit SIC code level. For example, the Metal Mining sector is equivalent to SIC code 10 (REMI, 2000).

It is important to note that many SIC codes in ARB's 1996 emissions inventory do not represent a valid SIC code; often times these codes appear to be based on the outdated 1977 SIC code system. Whenever possible, Pechan used the first three digits of the invalid SIC code to match to the applicable REMI sector. For some point source records in ARB's inventory, SIC code information was invalid at the 3-digit SIC code level or available at less than a 3-digit SIC code level. For these cases, Pechan assigned a 2-digit SIC code-based REMI output indicator. For ARB inventory SIC codes that are also invalid at the 2-digit SIC code level (e.g., SIC code 2), Pechan used the SCC information in the inventory and the SCC-based REMI growth surrogate identified in the EGAS 4.0 model to assign a growth surrogate (EGAS employs REMI indicators as growth surrogates for most point source categories.) To ensure that these point sources are properly assigned growth parameters, ARB should consider reassigning valid SIC codes to the invalid/outdated SIC codes in its inventory.

The PAD file prepared by Pechan contains two types of point source growth surrogate assignments: fuel combustion and non-fuel combustion. The non-fuel combustion source categories are defined solely by 4-digit SIC code, and therefore are assigned an "8" to the "CATEGORY FLAG" field in the PAD file. Table II-2 displays the point source growth parameter assignments for non-fuel combustion source categories, including the information presented in the "PARAMETER COMMENT" field in the PAD file.

2. Fuel Combustion Sectors

For fuel combustion sectors, Pechan has assigned a separate set of point source growth surrogates. Although one would anticipate that the amount of fuel burned in a given industry is related to the amount of output that is produced by that industry, there are other factors that come into play. For example, fuel price changes can affect the amounts of different types of fuels burned. If, for example, the price of natural gas dropped significantly in relationship to other fuel types, one would anticipate that use of natural gas per unit of output would increase more than

the amount of other fuels. Another factor that lessens the correlation between output and fuel consumption is energy efficiency improvements, which can be required by government regulation, based on energy consumers' energy conservation decisions (e.g., insulation upgrades), and/or result from technology change. These price change and energy efficiency improvement factors are modeled in the Department of Energy (DOE), Energy Information Administration's (EIA) *Annual Energy Outlook* (AEO) fuel consumption projections (DOE, 1998). Unfortunately, DOE's set of projections do not provide State, county, or sub-county geographical detail, and therefore, are not directly used as growth surrogates in this effort.

Based on a similar approach used by EPA in preparing National emission projections, Pechan developed point source fuel combustion sector growth parameters from a combination of REMI socioeconomic data and fuel-specific energy consumption projections prepared for the AEO. In general this approach uses county-level SIC code-based output data from REMI's models adjusted for the national change in the intensity of energy use for each sector/fuel type as projected in the AEO. This approach acknowledges that emissions activities can grow at different rates within a given economic sector. Table II-3 presents a list of the AEO sector/fuel type categories used in developing REMI/AEO composite growth indicators in this study.

For this effort, Pechan reviewed the most recent list of point SCCs to which composite REMI/AEO parameters have been applied in projecting EPA's National Emission Trends inventory. Pechan revised this list based on the availability of more specific projections data for certain source categories. Specifically, Pechan assigned other growth parameters to certain source categories based on a more in-depth review of potential data sources that was conducted for certain significant source categories identified by ARB (e.g., electric utility fuel combustion sectors). The following briefly identifies the other data and methods used for these source categories (additional details on these data and methods are presented in Section III):

- *CATEGORY22* and *CATEGORY23* for point sources with SIC codes of 4911 and 4931 with natural gas combustion-related SCCs, Pechan used data on natural gas use by electric utilities. These data were available from the California Energy Commission (CEC) at the Air Basin/County level for 2000-2020 and at the state-level for 1976-1998. For 1970-1975, Pechan used state-level natural gas use by electric utilities as published by DOE's EIA. For 1999, Pechan assumed the average annual growth rate over the 1976-1998 period would hold for 1999-2000.
- *CATEGORY35* for Class II and III Municipal Solid Waste Landfills, Pechan used 1990-1999 county-level landfill tonnage data provided by the California Integrated Waste Management Board (IWMB).
- *NONGAS_UTIL* for point sources with SIC codes of 4911 and 4931 with fuel combustion SCCs, excluding natural gas, Pechan used data on non-natural gas fuel use by electric utilities. These data were available from the CEC at the Air Basin/County level for 2000-2020 and at the state-level for 1976-1999. For 1970-1975, Pechan used state-level non-natural gas use by electric utilities as published by the EIA. For 1999, a no growth assumption was applied based on the average annual 1976-1998 growth rate.

- *TOTAL_UTIL* for point sources with SIC codes of 4911 and 4931 with non-fuel combustion SCCs, Pechan used data on total fuel use by electric utilities. These data were available from the CEC at the Air Basin/county level for 2000-2020 and at the state-level for 1976-1999. For 1970-1975, Pechan used state-level fuel use by electric utilities as published by the EIA. For 1999, Pechan assumed the average annual growth rate over the 1976-1998 period would hold for 1999-2000.

As noted above, the PAD file compiled by Pechan contains two types of point source growth surrogate assignments - fuel combustion and non-fuel combustion. For fuel combustion categories, Pechan assigned growth surrogates based on SCC-SIC code combinations, and these categories, therefore, are assigned a "4" to the "CATEGORY FLAG" field in the PAD file. It is important to note that to reduce the potential size of the PAD file, Pechan developed the list of SCC and SIC code combinations based on the SIC codes included in ARB's 1996 emissions inventory that are assigned to fuel combustion SCCs. Table II-4 presents the point source fuel combustion sector growth parameter assignments. The REMI/AEO growth parameter names are a combination of the growth parameter name used for non-fuel combustion point sources and the fuel projection category codes presented in Table II-3 (e.g., SIC_206-I39 is a combination of the growth parameter SIC_206, which reflects output in the Sugar and Confectionery Products sector, and I39, which is the adjustment reflecting the projected change in steam coal use per dollar of output in the industrial sector).

B. NON-MOBILE AREA SOURCES

For non-mobile area sources, Pechan relied on a combination of growth surrogate assignment approaches. Most importantly, Pechan conducted an intensive search for historical and forecast emissions activity data for the non-mobile area source categories identified for detailed review by ARB (see Section III for a discussion of the categories included in this effort). For the ARB-identified categories with available historical emissions activity data, Pechan conducted multiple regression analyses. The purpose of the analyses was to identify the presence of a statistically significant relationship between the historical emissions activity data and potential growth surrogates. The analyses included potential growth surrogates from REMI's economic models and other data sources (e.g. on-road vehicle miles traveled data provided by ARB). Among the REMI model variables included in these analyses were output and employment data by economic sector, real disposable income, housing expenditures, and population. Based on the results of the analyses, Pechan identified an equation to be used along with the REMI data in developing growth surrogate data for certain non-mobile area sources. (For further details on these analyses, see Section III). To assign growth surrogates to the source categories not included in the detailed analysis, Pechan used REMI growth parameter assignment information provided in EGAS Version 4.0, the previous set of ARB growth parameter assignments, and professional judgment. Among the growth surrogates applied to these other categories were REMI output, employment, and population data, composite REMI/AEO data, and data supplied by ARB (e.g., on-road vehicle miles traveled data).

Based on previous ARB growth surrogate assumptions and time-series data obtained by Pechan, ARB directed Pechan to employ specific surrogate data and growth assumptions for

certain source categories. The following briefly identifies the other data and methods used for these source categories (additional details are presented in Section III):

- *CATEGORY04* for Oil and Gas Production, Gaseous Fuel (Unspecified), Pechan used California Division of Oil and Gas (DO&G) county-level natural gas production data to represent the 1970-1998 historical emissions activity trend in this source category; Pechan also used DO&G Northern and Southern California projections of natural gas production for every fifth year through 2022 in developing growth surrogate data through that year.
- *CATEGORY05* for Oil and Gas Production, Crude Oil Production-Tanks, Pechan used DO&G county-level oil production data to represent the 1970-1998 historical emissions activity trend in this source category.
- *CATEGORY07* for Pesticides/Fertilizers-Agricultural Pesticides-Methyl Bromide, Pechan used data on agricultural use of methyl bromide from the California Department of Pesticide Regulation (DPR) for 1990-1998, assumed growth through 2001 (based on the trend in Farm sector output), and then reduced the level of methyl bromide use to 30 percent of the 1998 DPR level for the year 2010 and all subsequent years.¹
- *CATEGORY08* for Pesticides/Fertilizers-Agricultural Pesticides (all except Methyl Bromide), Pechan used data on agricultural use of non-methyl bromide pesticides from the DPR for 1990-1998 to represent trends in the emissions activity for this category.
- *CATEGORY13* for Farming Operations, Cattle Feedlot Dust, Pechan employed ARB's Air Basin/County estimates of the number of cattle marketed in feedlots for 1987; Pechan also used State/District level cattle feedlot data to represent trends in use between 1970 and 1998.
- *CATEGORY37* for Natural Gas Transmission Losses, Pechan employed the data developed for *CATEGORY04* (see above).
- *POP-NOGROW* for Consumer Products-Aerosol Coatings categories, Pechan used population data as the growth indicator for all years except for 1991-2010 for the South Coast Air Basin and for 1991-1999 for all other Air Basins. For these years, Pechan employed a no growth assumption
- *STRUCTMETHYL* for Pesticides/Fertilizers-Structural Pesticides-Methyl Bromide, Pechan used data on structural use of methyl bromide from the DPR for 1990-1998 and

¹ ARB recommended that the 2010 values should represent one-third of the 1990 levels. Because the DPR data indicated that some areas' 1998 values are substantially below their 1990 values, applying this assumption for these areas results in substantial increases in agricultural methyl bromide use between 1998 and 2010. To alleviate this anomaly, Pechan calculated the State total use for 1990 and 1998 and developed the 30 percent reduction value to apply to the 1998 values based on the state-level increase in use that had occurred between those two years.

assumed straight-line reductions in use to a level of zero in year 2005 and all subsequent years.

- *STRUCTNONMET* for Pesticides/Fertilizers-Structural Pesticides (all except Methyl Bromide), Pechan used data on structural use of non-methyl bromide pesticides from the DPR for 1990-1998.

As requested by ARB, Pechan assigned growth surrogates to all non-mobile area sources based on EIC/SIC combinations. Therefore, all non-mobile area sources are assigned a "CATEGORY FLAG" of "9" in the PAD file. Table II-5 presents the non-mobile area source category growth parameter assignments, including the information provided in the "PARAMETER COMMENT" field in the PAD file. As noted in this field, it was necessary for Pechan to use state-level data in a few rare instances. In order to develop growth surrogate data for all counties under the regression-based approach, it was necessary for Pechan to use state-level regression-based activity data in cases where counties reported zero activity for a significant number of years or negative activity for at least one year.

SECTION III

DEVELOPMENT OF HISTORICAL AND FORECAST GROWTH SURROGATE DATA

This section describes how Pechan developed 1970-2030 data for each growth surrogate listed in Section II. Subsection A describes the development of REMI historical and forecast growth surrogate data. This is followed by subsection B, which discusses the development of composite growth surrogate data from REMI and AEO data sources. The historical and forecast data produced for each of the 50 source categories identified for detailed review is described in subsection C. This section concludes with subsection D, which presents an explanation of Pechan's methods for developing historical and forecast growth surrogate data for point sources identified with electric utility-related SIC codes.

A. REMI SOCIOECONOMIC DATA

For its model of the California county economies and aggregate State economy, REMI assembled data from public sources, calibrated the data to a published set of simultaneous equations, and generated forecasts based on nearly 30 years of historical data. The model is based on a full history from 1970 to 1997 for each county and includes a balanced history and calibrated forecast for each county for every year through 2030. Over 6,000 historical data points for each year are assembled in the model into an internally consistent time-series for each county. The REMI historical and forecast data for each county includes the following variables that are linked to emission source categories in Pechan's PAD file:

- 53 employment and output sectors broken out to 168 private sectors based on differential growth rates at the national level; and
- Population, gasoline and oil expenditures; and government employment.

In addition, several other REMI variables such as housing expenditures and real disposable income are used as input variables in the regression equation-based approach described in subsection C.

1. REMI Model Overview

REMI has developed the methodology used to build its socioeconomic models over the last 19 years. The REMI model is continuously improved by a team of researchers led by the creator of the modeling methodology and REMI's founder, Dr. George I. Treyz.

The REMI Economic and Demographic Forecasting and Simulation (EDFS) model used to prepare historical data and forecasts for the California ARB was customized to the economic and

demographic structures of California's counties. It includes State and county-specific data for industry-specific wage rates, production costs, employment, profitability, sales prices, consumer prices, housing prices, employment opportunity, population, State and local government spending, investment, income, personal consumption, and many other variables.

Underlying REMI U.S. Model

The REMI U.S. model provides the macroeconomic inputs to REMI models of California's 58 counties. The REMI U.S. model produces calibrated U.S. forecasts which act as drivers to the county models. Thus the impact of recessions, expansions, and other macroeconomic events are differentially and accurately reflected in the forecasts for each California county.

First documented in an article by Gang Shao and George Treyz in *Economics Systems Research*, Volume 5, No. 1, 1993, pp. 63-75, the REMI U.S. model incorporates full structural detail for the U.S. economy. It includes employment and output for 172 industries, projected technology changes, productivity projections, and endogenous responses to business fluctuations.

The basic structural parameters, including technological relationships, productivity projections, labor forces participation rates, final demand by sector, and other data are updated every two years based on the biennial detailed forecast issued by the Bureau of Labor Statistics. The model is designed so that alternative U.S. forecasts of final demands (for the 25 final-demand components of Gross National Product) are transmitted through the entire structure of the model to yield new projections for all of the variables in the model. REMI undertakes this updating annually using a forecast from the Research Seminar in Quantitative Economics (RSQE) from the University of Michigan, a leading provider of U.S. forecasts with one of the longest track records.

Model-based Forecasts

Several unique features of the California REMI integrated model make its long-term forecasts reliable bases for growth surrogates in California's large, complex economy:

1. The REMI model of California's counties is a *dynamic structural model* that captures the particular economic structure of each county and its interconnections to each of the other counties. These interconnections include trade flows by industry and commuter flows.
2. The model includes a highly developed *demographic component*, including a recently added Hispanic ethnic cohort. This dynamic detail is critical in California, given its ethnic diversity and differences in natality rates. The model's demographic module also explicitly includes migration from outside of the United States by ethnic group by county - a crucial growth driver in many counties in the State.
3. The REMI model independently defines a *labor force* for each of 160 population cohorts broken down by age, gender, and ethnic group. California's geographically and ethnically diverse population make this level of structural detail a key feature, given

differential participation rates across age, gender, and ethnic cohorts. These rates also respond to economic conditions endogenously.

4. The economic and demographic forecasts provided to the California ARB are linked in a theoretically consistent way: increased immigration to any county will lead, via lower wage rates due to expanded labor supply, to an increase in jobs, as the costs of doing business decline. On the other hand, an increase in demand from an external source will reduce unemployment and increase wages, which, in turn, will attract more people. These linkages are important to long-term forecasts and critical to forecasts based on alternative growth scenarios.
5. The REMI models' forecasts for California are based on key parameters estimated over large panel-data sets. Hence, the results escape the programs of regressions of short, regional data-series, which are subject to measurement error and large, random fluctuations due to non-predictable local events.

Model Structure

The structure of REMI's California economic model incorporates inter-industry transactions and endogenous final demand feedbacks. In addition, the model includes: substitution among factors of production in response to changes in relative factor costs; migration in response to changes in expected income; wage responses to changes in labor market conditions; and changes in the share of local and export markets in response to changes in regional profitability and production costs (REMI, 2000b). One strength of the REMI model lies in its use of theoretical structural restrictions instead of individual econometric estimates based on single time-series observations for each region.

The inclusion of price responsive product and factor demands and supplies give the REMI model much in common with Computable General Equilibrium (CGE) models. CGE models have been widely used in economic development, public finance and international trade, and have been more recently applied in regional settings. Static CGE models usually invoke market clearing in all product and factor markets. Dynamic CGE models typically assume perfect foresight inter-temporal clearing of markets, or temporary market clearing if expectations are imperfect. The REMI EDFS model differs, however, because product and factor markets do not clear continuously. The model replicates the time paths of responses between variables by combining *a priori* model structure with econometrically estimated parameters.

REMI models generate forecasts by solving a large number of simultaneous equations organized in five blocks as shown in Figure III-1, which describes the underlying structure of the model. Each block contains several components that are shown in rectangular boxes. The lines and arrows represent the interaction of key components both within and between blocks. Most interactions flow both ways indicating a highly simultaneous structure. Block 1, labeled output linkages, forms the core of the model. An input-output structure represents the inter-industry and

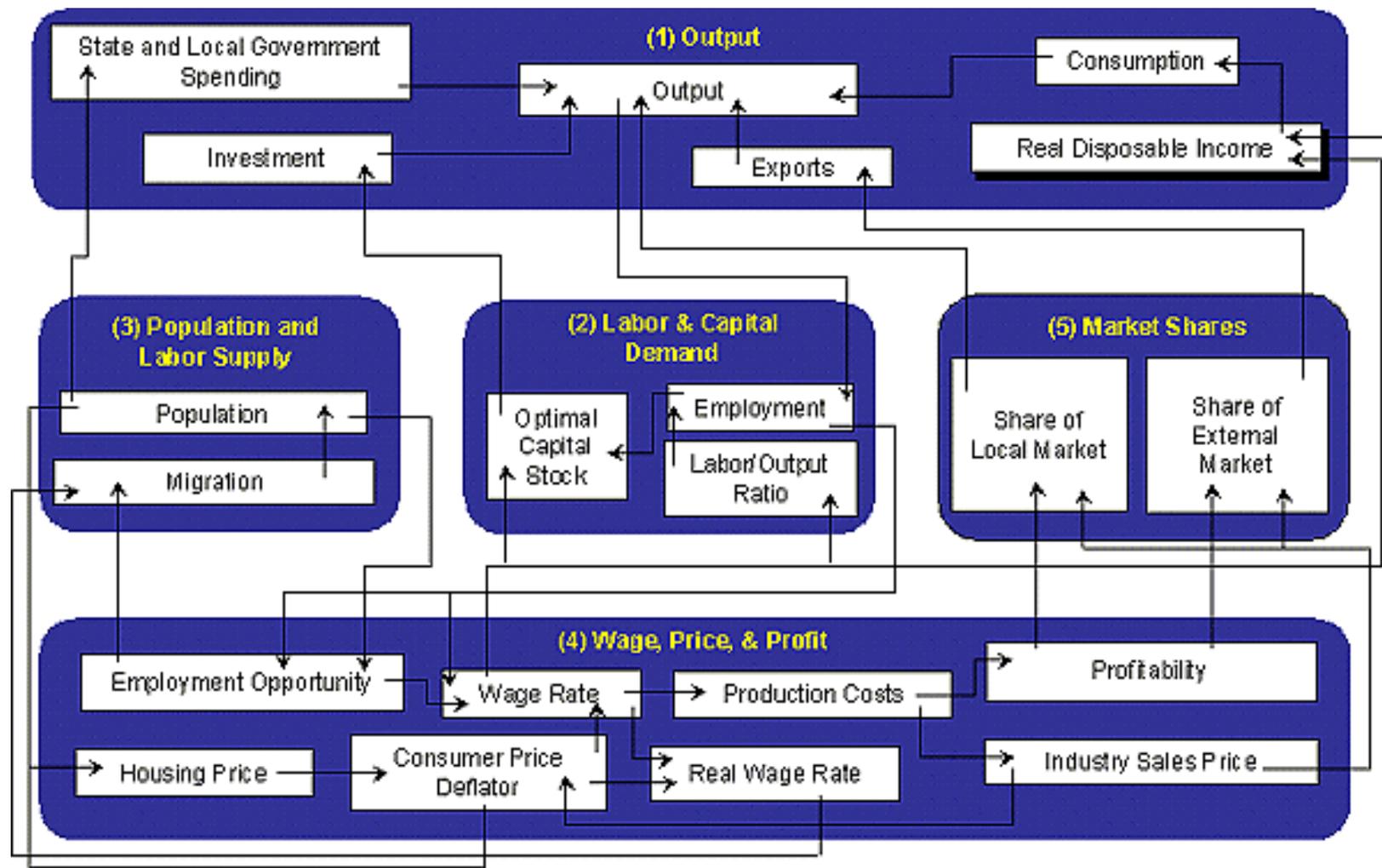


Figure III-1. Endogenous Linkages in the REMI Model

final demand linkages by industry. The interaction between block 1 and the rest of the model is extensive. Predicted outputs from block 1 drive labor demand in block 2. Labor demand interacts with labor supply from block 3 to determine wages. Combined with other factor costs, wages determine relative production costs and relative profitability in block 4 affecting the market shares in block 5. The market shares are the proportions of local demand in the region in block 1 and exogenous export demand that local production fulfills.

The endogenous final demands include consumption, investment, and State and local government demand. Real disposable income drives consumption demands. An accounting identity defines nominal disposable income as wage income from blocks 2 and 4, plus property income related to population and the cohort distribution of population calculated in block 3, plus transfer income related to population less employment and retirement population, minus taxes. Nominal disposable income deflated by the regional consumer price deflator from block 4 gives real disposable income. Optimal capital stock calculated in block 2 drives stock adjustment investment equations. Population in block 3 drives State and local government final demand. The endogenous final demands combined with exports drive the output block.

Appendix A presents detailed background materials on the historical data sources and methodologies used in developing REMI's California EDFS model.

2. Forecast Data Developed from REMI's California Model

REMI prepared forecasts for all the variables in the REMI model, according to four alternative growth scenarios. All forecasts were based on a REMI EDFS model of California's 58 county economies, calibrated with local historical data and integrated with each other to operate as a consistent model of the economy of the entire State (REMI, 2000c). Each forecast consisted of full, simultaneous solutions of the 58-area county model for each of the forecast years, reflecting the following four different growth scenarios:

1. A "standard" forecast (best estimate) scenario based on 20 years of model-based forecasting experience, extensive published reviews and the U.S. Bureau of Labor Statistics (BLS) and University of Michigan RSQE short and intermediate forecasts.
2. A "high growth" forecast (optimistic) scenario that used higher labor productivity assumptions, and included county-specific sales growth trends for the set of industries in the model that show higher growth than those incorporated in the REMI standard forecast.
3. A "low-growth" forecast (pessimistic) scenario that incorporated lower labor-productivity growth assumptions as well as demand trends not incorporated in the standard REMI forecast that would reduce the growth of the counties in question.
4. A "cyclical" forecast that is based on business cycle assumptions applied to the underlying U.S. model, which acts as the macroeconomic driver to the models of the California counties. The cyclical forecast reflects fluctuations in final demand due to recessions and recoveries, as well as changes in labor productivity that endogenously

respond to changes in the rate of output growth by industry in the sample period. Thus, the California multi-county forecast reflects the cyclical events that are predicted in the REMI U.S. cyclical forecast.

REMI used the following specific procedures to develop its three alternative economic forecasts.

High and Low Economic Growth

For these two alternative forecasts, REMI modeled significant historical employment trends that are not explained when REMI back-casts employment using its model structure. Under the high economic growth forecast, REMI included employment trends that were higher than explained by REMI's modeling approach; for the low economic forecast, REMI included employment trends that were lower than expected given REMI's model structure. REMI included employment trends by county and industry when judged significant and persistent over the last ten years.

In addition, the high growth forecast included an increase in productivity growth of 0.6 percent per year above the projections in the REMI standard forecast; the low growth forecast included a decrease in productivity growth of 0.6 percent per year versus the standard forecast. It should be noted that the decrease in productivity growth was not applied to sectors that had little or no productivity growth under the standard forecast. Because the REMI model treats the farm and federal government sectors differently from other economic sectors (e.g., farm employment and value added are based on the local share of U.S. farm employment and value added), REMI established the high and low growth forecasts for these sectors in a different manner. The extent of the adjustment for each sector and forecast was developed based on the nature of the sector, its movements over the last 30 years and judgement about the likely deviation from the standard U.S. forecast.

Cyclical Economic Growth

For this alternative forecast, REMI first measured the variance around the national trend in each of the following final demand variables over approximately the last 30 years:

- Fixed residential investment;
- Fixed non-residential investment;
- Producer's durable equipment;
- Farm;
- Government (Federal, civilian; Federal, military; State and local); and
- Exports.

REMI then superimposed the identified cyclicalities in each variable to the REMI standard U.S. forecast over the 2001 to 2035 period. This approach reflects all of the major cyclical factors that are not captured endogenously by the U.S. model (e.g., changes in labor productivity that endogenously respond to changes in the rate of output growth by industry). Because the U.S. model acts as the macroeconomic driver for the California county economic models, the changes in the U.S. forecast result in cyclical changes to the California county economies.

3. Data Anomalies

Historical Data

In some instances historical data in REMI's models indicate anomalous year-to-year trends in employment or output. For example, output in the child day care services sector increases from \$376 million to \$915 million between 1971 and 1972. REMI reviewed the historical data and determined that there are two explanations for these anomalous values, each of which result from data limitations: (1) the need to disaggregate available Bureau of Economic Analysis (BEA) one-digit SIC code county-level BEA employment data to the two-digit level; and (2) data suppressions in the BLS employment and output data series. For the first case, two-digit SIC code data are constructed from the BEA one-digit SIC code county series using two-digit SIC code county data from the BLS ES-202 series and the Department of Commerce's County Business Patterns. Sharp rises or declines in the REMI county-level employment and output data are attributable to a similar fluctuation in the ES-202 data or the use of County Business Patterns values where the ES-202 numbers were suppressed. For the second case, significant changes can occur from year-to-year when there are years with more data suppressions than other years.

It is important to note that the economic sectors where the data anomalies occur are not matched to major emitting source categories. For example, the largest year-to-year changes occur with the following sectors/variables:

- output in job training and related services;
- output in museums, botanicals, and zoological gardens;
- output and employment in tobacco manufacturing/products;
- output in forestry, fishing, hunting, and trapping;
- output in residential care; and
- output in miscellaneous fabricated textile products.

In addition, the majority of data anomalies occur in the earliest years of the study period. In particular, many of the anomalies result from an unusually high number of data suppressions prior to 1972.

Forecast Data

It should be noted that the high- and low-growth forecasts sometimes result in employment and output values that appear counterintuitive when compared to the best estimate (standard) forecast values. For example, under the low-growth forecast for 2030, employment in the railroad equipment sector is approximately 30 percent greater than employment under the standard forecast. The explanation for this occurrence is that labor costs in the counties where railroad activities take place are projected to decline under the low-growth scenario. This cost reduction is the result of a decline in employment for other industries that use the same labor force skills as the railroad equipment sector. This drop in the local cost of production results in increased local competitiveness in this sector relative to the rest of the nation. Because railroad equipment demand is forecast for only a small decline/slight increase under the low-growth scenario and because U.S. labor productivity is reduced by 25 percent in the low growth scenario,

the result is a higher level of projected railroad equipment employment versus the level projected under the standard forecast.

B. ENERGY ADJUSTED REMI SOCIOECONOMIC DATA

Many ARB source categories are associated with fuel combustion emissions activities. Because of the possibility that emissions activities will grow at different rates within a given economic sector, and the availability of fuel specific projections from the AEO, Pechan developed composite projections data for fuel combustion related point sources. These composite projections are developed from a combination of REMI socioeconomic data and AEO energy consumption data (REMI, 2000c and DOE, 1998). Pechan compiled the available AEO data for 1996-2020 and developed adjustment factors relating to changes in energy intensity. Specifically, Pechan calculated the following national energy intensity factors for 1996-2020:

- Residential fuel combustion - projected delivered energy by fuel type divided by the projected number of households;
- Commercial/institutional fuel combustion - projected delivered energy by fuel type divided by total Services sector output in millions of 1987 dollars; and
- Industrial fuel combustion - projected delivered energy by fuel type for both specific industries (e.g., refining industry) and for total industrial fuel use divided by projected industrial sector output in millions of 1987 dollars (specific industry or total industrial output).

Next, Pechan calculated the ratios of national 1996 energy intensity to the national energy intensity for each sector/fuel type through 2020. For example, AEO projects natural gas consumption in the commercial sector to rise from 3.392 quadrillion Btu in 1996 to 3.997 quadrillion Btu in 2020. Over this same time-frame, AEO projects constant dollar output in the Services sector to increase from approximately 6.2 to 10.7 billion dollars (in 1987 dollar terms) between 1996 and 2020. To reflect the projected change in natural gas consumed per dollar of Services sector output, natural gas energy intensity factors were calculated for 1996 and each projection year. For example, 0.375 quadrillion Btu/per dollar of natural gas is projected to be consumed in 2020 versus 0.545 quadrillion Btu/per dollar in 1996. For all commercial sector natural gas source categories in 2020, the REMI commercial sector growth factors are multiplied by 0.69, which represents the ratio of the 2020 energy intensity factor for commercial sector natural gas to the 1996 energy intensity factor for commercial natural gas. Similar ratios were calculated and applied for other fuels energy sectors and projection years.

Because the AEO forecast data ends in 2020, Pechan projected energy intensities through 2030 based on historical trends from the AEO projections series.

C. SOURCE CATEGORIES IDENTIFIED FOR DETAILED REVIEW

1. Selection of Source Categories

Pechan conducted a detailed review of growth surrogate assignments for 50 source categories identified by ARB. These 50 categories were identified from a mix of the highest-emitting categories in ARB's 1996 emissions inventory (37 categories) and ARB preferences (13 categories).

Pechan identified the top 50 emitting source categories from the ARB 1996 emission inventory by totaling the individual pollutant emissions for each source category. Emissions for the following pollutants were totaled for this effort: reactive organic gases (ROG), oxides of nitrogen, carbon monoxide, oxides of sulfur, and particulate matter with an aerodynamic diameter of 10 micrometers or less (PM₁₀). The list of top emitting source categories was developed at the SCC/SIC code-level for point sources and the Category of Emission Source (CES)- level for area sources. The resulting top 50 source category list accounts for approximately 83 percent of total point and non-mobile area source emissions in ARB's 1996 inventory. ARB then reviewed this list and identified changes eliminating 13 of the top 50-emitting source categories and replacing these with different categories selected by ARB. The purpose of this subsection is to provide details on the methods Pechan employed in developing historical and forecast emissions activity data for each of the final 50 categories. Because of recent developments in the electric utility industry, ARB subsequently requested that Pechan focus additional efforts on developing growth surrogate data for electric utility SIC codes (4911 and 4931). Subsection D describes the data developed for SIC codes 4911 and 4931.

2. Emissions Activity Identification

To begin the effort of developing historical emissions growth surrogate data for the ARB identified categories, Pechan reviewed three main sources of emissions activity information:

- "Emission Inventory 1996," State of California, Air Resources Board, Technical Support Division, Emission Inventory Branch. October 1998 (ARB, 1998a);
- "Index of Methodologies by Major Category," posted on ARB's web site at <http://www.arb.ca.gov/emisinv/areasrc/index0.htm> (ARB, 2000); and
- "Emission Inventory Procedural Manual, Volume III, Methods of Assessing Area Source Emissions," State of California, California Environmental Protection Agency, Air Resources Board, October 1997 (includes all revisions through November 1998) (ARB, 1997).

Pechan reviewed these sources for information on the methodologies and data sources employed by ARB in developing base year emission estimates for each of the emission source categories identified for detailed review. Pechan also requested and received additional background documentation of these methods and data sources from ARB. For some categories, ARB documentation was not available because these categories' emissions are not estimated by ARB,

but instead, are estimated by each Air District. Examples of such source categories include CES code 66605–Livestock Wastes and CES code 60418–Commercial Charbroiling. For source categories that are the responsibility of Air Districts, Pechan reviewed EPA information sources and any readily available District documentation to identify activities likely to be related to these categories. For the Agricultural Burning–Field Crops category (CES code 47258), for example, Pechan identified a list of crop types with emission factors in EPA’s *AP-42* document and used this list in compiling crop acreage data for use as emissions activity data for this source category (EPA, 1999). Pechan also reviewed the latest emissions inventory preparation guidance for sources of information for historical and forecast emissions activity data, and the factors affecting the emissions activity. This guidance is available from EPA’s Emission Inventory Improvement Program (EIIP) web site. The EIIP guidance was reviewed for the following area source categories:

- Residential Wood Combustion (Radian, 1997);
- Architectural Surface Coating (Radian, 1995);
- Consumer and Commercial Solvent Use (ERG, 1996);
- Solvent Cleaning (ERG, 1997a);
- Industrial Surface Coating (TRC, 1997a);
- Pesticides-Agricultural and Nonagricultural (TRC, 1997b);
- Asphalt Paving (ERG, 1998);
- Open Burning (ERG, 1999);
- Municipal Landfills (ERG, 1997b); and
- Autobody Refinishing (ERG, 2000).

In a few rare cases, no supporting emissions activity documentation was identified. Pechan identified emissions activities for these categories based on professional judgement.

3. Overview of Data Development Activities

After identifying the emissions activity data for each source category, Pechan researched the availability of long-term historical data for these categories beginning with 1970 (the first year of the time frame for this study). After obtaining and compiling historical time-series data for these categories, Pechan researched the availability of forecasts for these emissions activities. In the vast majority of cases, Pechan was unable to identify such forecasts. For these cases, Pechan conducted multiple regression analyses to identify surrogate indicators that correlate with the historical emissions activity data. Pechan selected potential explanatory variables for these regression analyses based on the EIIP emissions inventory preparation guidance, the availability of data from REMI’s economic models, and professional judgement. Pechan selected growth surrogates for use in projecting emissions based on the identification of statistically significant equations from the regression analysis. Pechan conducted the regression analyses using state-level historical emissions activity and REMI data.

Table III-1 displays information about the regression equations employed, including the variables identified as statistically correlated with historical emissions activity data and two important statistics (adjusted r^2 and t-statistic) that indicate the strength of the correlation

between the surrogate indicator(s) and the emissions activity. For source categories with more than one statistically correlated variable, the most strongly correlated variable is identified in boldface type. This table also indicates the base year of the data employed in each source category's regression analysis.

Pechan then employed the REMI best estimate forecast State data into the regression equations to develop state-level projections data throughout the study period. Pechan then adjusted the resulting state-level values for each county's growth relative to State growth. For the county adjustments, Pechan computed factors reflecting the county change relative to the state-level change in the most strongly correlated REMI variable identified from the multiple regression analysis. For those counties and variables that REMI shows with zero activity for certain years, Pechan directly used the state-level regression output to represent the county-level trend. Pechan developed the county-level adjustments using the following two algorithms.

Algorithms for State-level Growth Surrogates with Projected Increases Between 1970 and 2030:

$$C_{ify} = S_{ify} * [(c_{ify} - c_{iby}) / (s_{ify} - s_{iby})]$$

$$C_{ity} = S_{iby} + [(C_{ify} - S_{iby}) * \frac{(c_{ity} - c_{iby})}{(c_{ify} - c_{iby})}]$$

Algorithms for State-level Growth Surrogates with Projected Declines Between 1970 and 2030:

$$C_{ify} = S_{ify} * [(s_{iby} - s_{ify}) / (c_{iby} - c_{ify})]$$

$$C_{ity} = S_{iby} - [(S_{iby} - C_{ify}) * \frac{(c_{ity} - c_{iby})}{(c_{ify} - c_{iby})}]$$

where:

- C = county growth surrogate value;
- S = state regression output;
- c = county growth index calculated from data for most strongly correlated variable;
- s = state growth index calculated from data for most strongly correlated variable;
- i = source category;
- ty = target year of calculation;
- by = 1970; and
- fy = 2030.

Sample calculations for the Automobile Refinishing growth parameter in Fresno county are described to illustrate the procedure. As indicated in Table III-1, the multiple regression analysis identified employment in the Automobile Parking, Repair, and Services sector (SIC_752-4emp) as the sole statistically significant correlate with the emissions activity data for this source category. As indicated by the identified equation, the analysis indicated a 19.4 percent increase in emissions activity with every 100 percent increase in employment in this sector. The first step in the procedure is to compute indices representing the change in state-level employment in the

Automobile Parking, Repair, and Services sector for the base year of the data used in the regression analysis for this category (1987). State level SIC_752-4 emp data and calculated indices are shown below.

	1970	1987	2030
REMI data	61.629	147.106	375.634
Index (1987=1)	0.419	1.000	2.553

The next step is to compute the output from the identified regression equation by inputting the state-level indices computed above.

	1970	1987	2030
SIC_752-4emp index (1987=1)	0.419	1.000	2.553
Equation	$y = .801 + .194 * .419$	$y = .801 + .194 * 1$	$y = .801 + .194 * 2.553$
Equation output	0.882	0.995	1.296

The next step is to compile Fresno county data representing employment in the Automobile Parking, Repair, and Services sector analogous to the state-level data presented earlier.

	1970	1987	2030
Fresno county SIC_752-4emp	1.508	2.622	6.769
SIC_752-4emp index (1987=1)	0.575	1.000	2.582

The next step estimates the 2030 Fresno county value using the first equation listed on the previous page.

$$\begin{aligned}
 \text{Fresno final data for 2030} &= 1.296 * [(2.582-.575)/(2.553-.419)] \\
 &= 1.296 * (2.007/2.134) \\
 &= 1.219
 \end{aligned}$$

The next step estimates the Fresno county values for 1971-2029 based on the second equation listed on the previous page. This step uses the 1970 State-level regression output, the 2030 Fresno estimate displayed above, and the ratio of Fresno county SIC_752-4emp growth between 1970 and the target year and Fresno county SIC_752-4emp growth between 1970 and 2030.

The purpose of the final step is to adjust the state-level regression output to reflect the relative growth in employment in the Automobile Parking, Repair, and Services sector in Fresno county versus the growth in this sector at the State level. Below shows a sample calculation for year 1987.

	1970	1987	2030
State equation output (from above)	0.882	0.995	1.296
County adjustment calculation for 1987		$= .882 + (1.219 - .882) * [(1 - .575) / (2.582 - .575)]$	
Final county data	0.882	0.953	1.219

Pechan then reviewed the output from implementing the appropriate algorithms to identify the reasonableness of the resulting growth rates. Pechan revised some of the initial county-level growth surrogate estimates to temper the more extreme county values. To systematically identify the estimates to revise, Pechan calculated the 1970 to 2030 county-level growth rates for each growth parameter and the standard deviation of these county growth rates. Pechan modified the initial growth surrogate estimates for all counties whose 1970-2030 growth rate was more than one standard deviation above or below the average 1970-2030 growth rate for a given parameter. In nearly all instances, Pechan set the revised county 1970-2030 growth rate equal to one standard deviation away from the average category growth rate. For example, counties whose growth rates were more than one standard deviation below the average 1970-2030 growth rate for a given parameter, had their 2030 estimate revised to equal the growth representing one standard deviation below the average county growth rate. The 1971-2029 growth surrogate data were then calculated by apportioning the 1970-2030 rate-of-change using the initial growth surrogate estimates. Specifically, Pechan multiplied the revised 1970-2030 change by the ratio of the change between the initial 1970 surrogate value and the initial target year value to the change between the initial 1970 and 2030 values. This algorithm is similar to the one described earlier in relation to computing the initial county-level growth surrogate estimates. In the small number of cases where this approach yielded a negative estimate for one or more years, Pechan replaced the entire initial county level growth surrogate series with the state-level regression series.

For some source categories, Pechan determined that the regression-based approach provided large growth rates that appear unsustainable in the long-run. For all but three of these source categories, Pechan employed the regression-based approach only for the years for which the regression analysis was conducted. For the remaining years over the study period, Pechan applied the county-level growth rate for the variable identified as the most strongly correlated with the historical emissions activity data.

For three source categories – Industrial Coatings (Unspecified); Architectural Coatings, Oil-Based Industrial Maintenance Coatings; and Structural Methyl Bromide – Pechan did not use the regression-based approach for any years, but instead used the county-level trends in the variable identified as most strongly correlated with the emissions activity data. Data limitations explain

why the regression equations developed for these three source categories did not provide reasonable growth surrogate values. For the Industrial Coatings (Unspecified) category, only National time-series data are available, and the unclear definition of this category makes the available data questionable for determining long-term trends in California emissions activity for this category. Similarly, no California-specific time-series emissions activity data were identified for the Architectural Coatings, Oil-Based Industrial Maintenance Coatings category. In addition, National production data specific to industrial maintenance paints were only available for 1982-1984. For the Structural Methyl Bromide source category, Pechan utilized 1990-1998 DPR data on the amount of methyl bromide used in structural applications. The DPR data indicate that the amount of methyl bromide used in these applications declined from 5.2 million pounds in 1990 to 363 thousand pounds in 1998. This dramatic reduction in methyl bromide use resulted from DPR's additional pesticide reporting requirements and the impact of the Montreal Protocol. Estimating the pre-1990 trend in structural methyl bromide use based on the identified equation yields unreasonably large values. The regression-based approach to back-cast the 1990 DPR data is not valid because of the policy changes that uncharacteristically influenced the trend in structural methyl bromide use over the regression analysis period.

The following presents details on the data sources and approaches Pechan employed in developing historical and forecast data for each of the 50 ARB-identified source categories, and provides additional information on the data limitations associated with these categories.

4. Data Development Approaches for Each Source Category

Category 01. CES 46789 - Auto Refinishing

ARB's "Emission Inventory Procedural Manual, Volume III, Methods of Assessing Area Source Emissions," hereafter referred to as ARB's Methods Manual, describes the use of National production data for "auto and machinery refinish paints" from the Bureau of the Census and vehicle registration data to estimate state-level base year emissions activity data for this source category (county emissions activity estimates were based on county to State population ratios). To develop historical time-series data for this category, Pechan first compiled National "auto and machinery refinish paints" production data from the Bureau of the Census (Census, 1997a and Census, 1997b). Because of breaks in the available data series, Pechan compiled these data for 1972, 1977, and 1982-1997. Pechan then employed these data in a multiple regression analyses. To test potential indicators that correlate with production of automobile and machinery refinish paints, Pechan regressed these data against the National historical values for the following variables: employment and output in the Automobile Parking, Repair, and Services sector; vehicle miles traveled (VMT); and population. With the exception of the VMT data, Pechan obtained the values for these indicators from REMI's "best estimate/standard" U.S. economic forecasting model. The National VMT data were compiled from EPA's MOBILE 4.1 Highway Fuel Combustion Model. It should be noted that VMT, population, and employment in the Automobile Repair Services sector were identified as indicators of automotive refinishing activity in the EIIP guidance for Autobody Refinishing, the SRI International report entitled, "U.S. Paint Industry Data Base," and/or ARB's Methods Manual (ERG, 2000; SRI, 1990; ARB, 1997). None of the indicators explained a large proportion of the trend in the underlying Bureau of the Census data series. The best statistical fit identified was for Automobile Parking and Repair

Services employment (adjusted $r^2=0.353$, t-statistic = 3.203). Pechan believes that the underlying Bureau of the Census data may not provide the best indication of automotive refinishing activity because these data include “other transportation and machinery refinish paints.”

Pechan, therefore, developed a multiple regression analysis based on available historical and forecast data for National motor vehicle refinishing coatings demand data reported in the Freedonia Group, Inc.’s report “Paints and Coatings to 2002” (Freedonia, 1998). This regression analysis indicated a very strong correlation, and the best statistical fit, with Automobile Parking and Repair Services employment ($r^2 = 0.949$; r^2 adjusted = 0.932; t-statistic of 7.464). Pechan prepared the growth surrogate data for this source category based on a combination of REMI state and county-level employment data for the Automobile Parking, Repair, and Services sector and the regression-based approach described in Section III.C.3.

Category 02. CES 46748 - Industrial Coatings (Unspecified)

The following Bureau of the Census publications provide the main emissions activity data for this source category: *Annual Survey of Manufacturers*, “Paint and Allied Products,” and *Current Industrial Reports*, “Paint, Varnish, and Lacquer” (Census, 1997a and Census, 1997b). ARB estimated 1982 emissions for this category by summing the following Census categories:

- 28512 23 - Truck and bus finishes;
- 28512 25 - Other transportation equipment finishes, including aircraft, rockets, and missiles;
- 28512 33 - Railroad finishes;
- 28512 35 - Appliance, heating equipment, and air conditioner finishes;
- 28512 39 - Wood and composition board flat stock varnishes and other finishes;
- 28512 53 - Insulating varnishes, electrical types;
- 28512 58 - Other industrial product finishes, excluding semimanufactured products such as pigment dispersions and ink vehicles;
- 28512 65 - Industrial lacquers, fabricated metals;
- 28513 01 - Industrial maintenance paints, interior;
- 28513 05 - Industrial maintenance paints, exterior; and
- 28513 11 - Traffic paints.

In addition, the ARB Methods Manual states that this category accounts for unspecified industrial coatings emissions that are not inventoried in any point source category. Because of a lack of consistent point source data for this category (data are available for every 3 years over the period 1987-1997, but data values jump dramatically between available years), no attempt was made to adjust the Bureau of the Census data to eliminate point source emissions activity.

Pechan compiled 1985-1998 National production data for the Bureau of the Census paint categories used by ARB in developing base year emissions for this source category. In 1994, the Bureau of the Census revised the coding scheme for the first two categories listed above. Because it was clear that three new codes replaced the two previous codes, it was possible to compile a consistent series from 1985-1998. Next, Pechan regressed these National production data against the following variables: output and employment in the Durables Manufacturing

sector and output and employment in the Total Manufacturing sector. The multiple regression analysis indicated that output in the Durables Manufacturing sector provides the best correlation with production of these industrial coatings (adjusted $r^2 = 0.931$, t-statistic of 13.25). Pechan utilized REMI's Durables Manufacturing output data in the equation identified from the analysis that regressed the National industrial coatings production data against these data.

A review of the resulting growth surrogate estimates indicated anomalously large values for several years over the study period, including the years incorporated into the regression analysis. Because of this concern and the fact that California-specific data and area source-specific data were not available for use in the regression analysis, Pechan used county-level trends in the REMI output data for the Durables Manufacturing sector to represent the growth surrogate data for this source category.

Category 03. CES 83030 - Organic Solvent Adhesives and Sealants

To develop base year emissions activity data for this category, ARB's Methods Manual describes the use of data provided in Decision Resources' "Outlook for the U.S. Adhesives and Sealants Industry," February 1981. This article presented adhesives and sealants National production data for various end uses (ARB assumed that production was equal to use). Because ARB assumed that both packaging industry use and wood converting (forest product) industry use are accounted for in the point source inventory, ARB only used the National production data for construction, transportation, and "all other" industries for this category. For the base year inventory, 10 percent of adhesives were assumed to be solvent-based (45 percent were assumed to be water-based, 25 percent hot melts, and 20 percent other). Based on a 1982 SAIC report, "Development and Improvement of Organic Compound Emissions Inventory for California," ARB assumed that California consumed 12.3 percent of the National production of adhesives and sealants. The Statewide emissions estimate was then distributed to counties based on new nonresidential and residential building construction data from Security Pacific Bank's "California Construction Trends," December 1983.

Because ARB developed base year emissions estimates using references that only provide data for a single year, Pechan investigated the availability of other sources of activity data. None of the identified sources provided long-term data specific to solvent-based adhesives and sealants. For example, the *Census of Manufacturers* presents raw material use on a dry-weight basis, which excludes solvents. To represent National emissions activity data for this category, therefore, Pechan developed constant dollar shipments data for SIC code 2891 (Adhesives and Sealants) from the National Bureau of Economic Research-Center for Economic Studies (NBER-CES)'s "Census Manufacturing Industry Productivity Data Base" (NBER, 2000). This data base contains National value of shipments data in nominal dollars and shipments price deflators for this industry for 1970-1994. To develop emissions activity data for 1995-1997, Pechan compiled *Annual Survey of Manufacturers* value of shipments data, which is the source of the data that underlie the NBER-CES data base, and the producer price index for SIC code 2891 (Census, 1997c). These data were then normalized to the NBER-CES data to develop a complete 1970-1997 data series. Pechan then conducted analyses regressing these data against National employment and output data for the following sectors: Construction; Nondurables Manufacturing; Durables Manufacturing; Total Manufacturing; and Carpets and Rugs. These sectors are the major

adhesive and sealants consuming industries described in the *Rauch Guide to Adhesives and Sealants Industry, 1995-1996* or in information obtained from the Freedonia Group (FMC, 1996 and Freedonia, 1999a). Based on these regressions, the indicator that best correlated with the production data was employment in the Construction industry (with an adjusted r^2 of 0.922 and t-statistic of 17.86). Pechan therefore used REMI employment data for the Construction industry in the equation identified from the regression analysis (see Table III-1) to develop trends in adhesives and sealants demand.

Because this method only projects total adhesives and sealants demand, and industry sources indicate declines in solvent-based versus alternative adhesive technologies (e.g., water-borne and hot melts), an adjustment factor was applied to reflect available information on the reduction in solvent-based adhesives and sealants demand in the United States (California-specific data are not available). Based on the percentage of total adhesives demand that is solvent-based that is available from Freedonia for 1989, 1993, 1998, 2003, and 2008, Pechan estimated the percentage of total demand attributed to solvent-based for other years over the period 1970-2030. (Note that industry sources state that 95 percent of total adhesives and sealants demand is attributable to adhesives.) Because of a lack of information, Pechan applied the 1989 percentage to all pre-1989 years. For all other years, Pechan developed a log-linear time series regression fitted to the solvent-based percentage values for 1989, 1993, 1998, 2003, and 2008. The log-linear regression indicated a statistically significant relationship between the year and solvent-based demand as a percentage of total adhesives demand (adjusted $r^2 = 0.996$; t-statistic of -30.84). The resulting regression equation was used to interpolate between the available years from the Freedonia source and to project the percentage of total adhesives and sealants demand that is solvent-based. In 1989, this percentage was 16.1; in 2008, Freedonia projects the percentage at 7.7; in 2030, Pechan forecasts the percentage at 3.3 percent.

The growth surrogate data for this source category was estimated using the regression output described above, adjusted by factors reflecting the reduction in total adhesives and sealants demand attributable to organic solvent-based adhesives and sealants.

Category 04. CES 46441 - Oil and Gas Production, Other, Gaseous Fuel (Unspecified)

The ARB's emissions activity data for this category is the amount of natural gas produced in each county. These data, which are originally reported in an annual report published by the DO&G, "(73rd) Annual Report of the State Oil and Gas Supervisor," were compiled from the "California Statistical Abstract" for 1970-1998 (DOF, 1999). Data were not available from this source for 1979. To estimate data for this year, Pechan interpolated between the values for 1978 and 1980.

Pechan also obtained natural gas supply projections from the CEC for Southern and Northern California for 2002, 2007, 2012, 2017, and 2022 (CEC, 2000). After regressing the CEC forecast data against various REMI variables, Pechan identified a statistically significant equation relating total California on-shore natural gas production to two variables: (1) employment in the Gas Utilities sector; and (2) output in the Crude Petroleum, Natural Gas, and Gas Liquids sector (adjusted $r^2 = 0.986$; t-statistics of -6.183 and 4.855, respectively). The

REMI “best estimate” forecast data for these sectors were input into this equation to yield post-2020 state-level production forecasts and to interpolate between the available CEC forecast year values. Northern and Southern California on-shore production estimates were developed by applying regional ratios to the State totals. To develop regional ratios for forecast years not reported by the CEC, Pechan interpolated between the values for the years forecast by the CEC. To represent post-2022 year ratios, Pechan used the regional ratios for 2022. Because the CEC projections data do not exactly match the CEC historical data, Pechan developed post-1998 natural gas production estimates by applying growth factors to the actual 1998 county-level production data. These growth factors are based on the CEC regional forecast data and the regional forecast data developed by Pechan as described above.

Category 05. CES 46458 - Oil and Gas Production, Crude Oil Production-Tanks

For this category, ARB’s emissions are estimated based on a series of parameters, including storage tank throughput, type of tank, tank diameter, turnover of the liquid in tank, type of product in tank, etc. To develop the base year values for these parameters, ARB used the results of a one-time oil production tank survey. Pechan was unable to identify historical time-series data for most of the parameters included in the base year emissions estimate. However, county-level oil production data are available from the same DO&G source described above for CES 46411. Pechan compiled these 1970-1998 county-level oil production data to represent the historical emissions activity data for this category. Because data are not available for 1979, Pechan interpolated the values for this year. To project oil production, Pechan conducted analyses regressing the historical state-level oil production data with various indicators available from REMI’s “best estimate” forecast models. The regression analyses identified the following variables as best correlated with California oil production: (1) employment in the Crude Petroleum, Natural Gas, and Gas Liquids sector and (2) employment in the Pipelines, excluding Natural Gas sector (adjusted $r^2 = 0.878$; t-statistics of 14.03 and -8.408, respectively). Pechan developed post-1998 forecasts of county-level oil production by applying growth factors to the actual 1998 county-level oil production. These growth factors were developed based on output from the equation described above and relevant employment data from REMI’s “best estimate” forecasting models.

Category 06. CES 83089 - Consumer Products, Non-Aerosol Solvents

According to ARB’s Methods Manual, a diverse set of products comprise this category, which includes products used in residential, institutional, and commercial establishments. Products include, but are not limited to: window cleaners, general purpose cleaners, spot removers, floor and furniture polishes, household adhesives and sealants, electric pre-shave, non-aerosol hair care products, after shave, stick and roll-on deodorants, nail care products, rubbing alcohol, mouthwash, lotions, radiator and windshield washer antifreezes, and automotive brake fluid. Table III in Section 6.1 of ARB’s Methods Manual lists the estimated statewide solvent use for non-aerosol consumer products for 1987. The following lists the products from this table with solvent use of more than 1,000 tons per year:

1) Radiator antifreeze	117,860*
2) Non-aerosol windshield washer antifreeze	10,450
3) Non-aerosol hair sprays	2,582
4) Floor polish	2,336
5) Stick deodorants, anti-perspirants	1,857
6) Non-aerosol after shave	1,542
7) Creams	1,490
8) Brake fluid	1,485
9) Household adhesives and sealants	1,442
10) Furniture polish	1,422
11) Rubbing alcohol	1,316
12) Mouthwash	1,118
13) Shampoo	1,021

Notes: Emissions for boldface products are based on national 1972 *Census of Manufacturers* data.

* Only 5 percent of this amount (5,893) was assumed to actually be emitted into air.

Using ARB's assumption that 5 percent of radiator antifreeze is emitted into the atmosphere, the top two consumer products emitted 42 percent of the 38,892 total solvents emitted from this category. The top 5 and top 10 products emitted 59 percent and 78 percent, respectively, of the total consumer product solvents emitted. ARB used numerous references in compiling base year emissions activity for this source category. However, the 1972 *Census of Manufacturers* was the source of these data for most of the individual products representing greater than 1,000 tons per year of solvent use (Census, 1972).

Although the "Soaps, Cleaners, and Toilet Goods" industry report from the *Census of Manufacturers* presents National production data for most of the top 10 products in this category, it is important to note that this was not ARB's data source for automotive washer fluid use. Activity data for this consumer product was based on a one-time survey conducted by Charles H. Kline and Company. Pechan attempted to develop a long-term production series for the major contributors to this source category as identified in ARB's Methods Manual. Unfortunately, *Census of Manufacturers* data are only available every 5 years. In addition, the coverage of consumer products was inconsistent across years, with the most glaring omission being the lack of pre-1992 data for the single largest emissions contributor, windshield washer antifreeze. Pechan was also unable to identify long-term data for the consumer products for which ARB estimated emissions based on non-*Census of Manufacturers* references.

Because of these problems, Pechan researched the availability of other sources of consumer products data. Pechan identified that Freedonia's "Solvents to 2003" and "Automotive Fluids and Chemicals to 2003" publications contain 1989, 1993, 1998, 2003, and 2008 solvents data for: (1) consumer products markets; and (2) antifreezes and deicers (Freedonia, 1999b and Freedonia, 1999c). Pechan compiled these National consumer product solvents demand data from Freedonia. Solvent demand data are available from this source for the following specific consumer products categories:

- Household cleaners;
- Toiletries, cosmetics, and drugs;

- Dry cleaning;
- Antifreeze and deicers; and
- Other applications.

Because ARB categorizes emissions from solvents used for dry cleaning in separate ARB emissions categories (e.g., CES 46797), these data were not included in this analysis. Following ARB's emission estimation methods, Pechan estimated that 13 percent of the antifreezes/deicers solvent use is emitted into the air. This 13 percent was computed using 1987 estimates of radiator and antifreeze consumption and assumptions that all windshield antifreeze, but only 5 percent of radiator antifreeze is actually emitted into the air. No other adjustments were made to the Freedonia estimates because ARB assumes that 100 percent of the solvents in all other consumer products are ultimately emitted into the air.

For many of the consumer products that comprise this category, ARB used population data to allocate National production data to California. For other consumer products (e.g., windshield washer antifreeze), ARB used vehicle registration data to allocate National data to California. Because Pechan does not have access to vehicle registration forecasts, Pechan analyzed VMT data as a potential explanatory variable for consumer product solvent use. Pechan developed a multiple regression analysis of the Freedonia solvents demand data against National data for the following variables: population; employment and output in the Motor Vehicles and Equipment sector; real disposable personal income; and VMT. The equation identified from the analysis included population as strongly correlated with the emissions activity data (adjusted $r^2 = 0.990$, t-statistic of 20.16).

To estimate 1970-2030 growth surrogate data for this source category, Pechan used the identified equation relating solvent use to population data. Pechan reviewed these data for reasonableness and identified large growth rates that appear unsustainable throughout the entire study period. Therefore, Pechan revised the growth surrogate data for the years before and after the period included in the regression analysis (i.e., 1989-2008). To represent pre-1989 and post-2008 trends in this category, Pechan used REMI's county-level population growth rates from their "best estimate" forecast scenario.

Category 07. CES 83550 - Agricultural Pesticides, Methyl Bromide

ARB provided Pechan with a file developed by the DPR (Lerch, 2000a). This file contains 1990-1998 process rates and total organic gas and ROG emissions for all four agricultural/structural pesticide categories in section 6.4 of ARB's Methods Manual at the Air Basin/District/county level. The DPR has only required full reporting of pesticide use since 1990; since 1970, DPR has compiled data from all pesticides used by commercial pest control operators and restricted material applications from farmers (i.e., criteria for restricted material designation includes harm to public health, farm workers, and others). DPR has published annual reports on these data since 1971. These tabular reports include the pounds applied and the number of acres or other units treated. Pechan compiled the pre-1990 DPR data, but determined that these data should not be used as surrogate growth data because they are not comparable to data in later years due to the significant change in reporting requirements and because of some anomalous changes in year-to-year values. (It should be noted that the DPR suggested that there may be

gross errors in these data as they did not quality assure the pre-1990 data that were reported to them).

DPR staff has recommended to ARB that they incorporate the following assumptions into their forecasts of the two methyl bromide source categories to reflect the impact of the Montreal Protocol: (1) for Agricultural Pesticides-Methyl Bromide (CES 83550), the source category should grow through 2001, then be reduced to one-third of the 1990 value by year 2010; and (2) for Structural Pesticides-Methyl Bromide (CES 83576), the source category should be reduced to zero by the year 2005.

Pechan developed regression analyses of the 1990-1998 DPR data for this source category with a dozen variables (e.g., output and employment in farm sector; output and employment in food manufacturing sector), but was unable to identify a successful correlation with any of these variables. Based on consultation with the ARB Contract Manager, Pechan used county-level Farm output as the surrogate growth indicator for pre-1990 trends in this category. Output in the Farm sector was used because of the strong historical correlation between agricultural non-methyl bromide use and this indicator. For 1990-1998, Pechan used actual Air Basin/District/county estimates of the amount of methyl bromide applied as reported by the California DPR. Pechan forecasted this emissions activity based on the DPR's assumptions. Specifically, Pechan grew the 1998 DPR estimates through 2001 using the county-level change in Farm sector output obtained from REMI's "best estimate" forecast. Pechan then estimated post-2001 values, by reducing the 2001 estimates so that by the year 2010, state-level agricultural methyl bromide is reported as one-third of the 1990 value. Pechan assumed no change in agricultural methyl bromide use after 2010. Pechan developed pre-1990 estimates by applying the county-level trends in Farm output to the 1990 DPR data.

[Note that ARB also provided Pechan with 1990-1998 DPR data on structural use of methyl bromide. ARB stated that Pechan should assume that structural use of methyl bromide (CES 83576) should be reduced to zero by year 2005. Pechan did not try to collect pre-1990 data for this category as it is not one of the categories identified for detailed review. To back-cast this category, however, Pechan developed a regression equation based on the state-level 1990-1998 DPR data. Nonresidential fixed investment and population were identified as statistically correlated with this emissions activity (adjusted $r^2 = 0.979$, t -statistics of 10.68 and -10.27, respectively). However, this equation resulted in unreasonably large pre-1990 values. The reason for this result is the uncharacteristically large decline reported between 1990 and 1998 in structural use of methyl bromide. The two explanations for this dramatic decline are the tightened pesticide use reporting requirements that went into effect in 1990, and the impact of the Montreal Protocol. Because of the data anomalies resulting from the implementation of the regression-based approach, Pechan developed pre-1990 growth surrogate data for this category based on the county-level trend in non-residential fixed investment as reported by REMI. Pechan used this variable because the regression analysis indicated that it was the most strongly correlated with the DPR emissions activity data. Pechan developed post-1998 activity for this category by reducing the 1998 DPR estimates to zero in 2005 using a constant rate of decline.]

Category 08. CES 83568 - Agricultural Pesticides, Non-Methyl Bromide

As described above for CES 83550, Pechan obtained DPR non-methyl bromide agricultural use data for 1990-1998 from ARB and compiled 1970-1989 use data from the DPR. The pre-1990 DPR estimates are very different from the estimates from 1990 due to reporting requirement changes (improvements in pesticide use reporting coverage). Because of this inconsistency, Pechan did not use the pre-1990 DPR data in this effort. Based on a regression analysis, Pechan identified REMI Farm sector output data as statistically correlated with the application of non-methyl bromide for agricultural use (adjusted $r^2 = 0.916$, t -statistic of 9.395). Pechan used the DPR Air Basin/District/county pesticide use data for the 1990-1998 growth surrogate data for this category. Pechan used county-level REMI Farm sector output data in the equation identified from the regression analysis in back-casting and forecasting growth surrogate data for this category.

[Note that ARB also provided Pechan with 1990-1998 DPR data on structural use of non-methyl bromide pesticides. Pechan did not try to collect pre-1990 data for this category as it is not one of the 50 categories identified for detailed analysis; Pechan developed a regression equation based on the state-level 1990-1998 DPR data. Housing expenditures were identified as statistically correlated with this emissions activity (adjusted $r^2 = 0.658$, t -statistic of 4.051). Pechan used REMI estimates for this variable and the identified equation to estimate growth surrogate data for the category. However, the resulting data provided numerous unreasonably large values. Because of these data anomalies and due to the short time frame and relatively weak correlation identified from the regression analysis, Pechan did not use the regression-based approach to back-cast/forecast this category's growth surrogate data. Pechan instead directly used the county-level trend in housing expenditures as reported in REMI's "best estimate" model to develop pre-1990 and post-1998 estimates for this category.]

Category 09. CES 82123 - Residential Wood Combustion, Fireplaces

ARB's emissions estimation method for this category is to multiply an average wood consumption per fireplace estimate (0.28 cords per year) by the estimated number of houses with active fireplaces. ARB derived the estimated number of houses with active fireplaces by subtracting the estimated number of wood heating houses (available from the 1990 *Census of Population and Housing-Summary Tape File 3A*) from the total number of wood burning houses. The total number of wood burning houses was estimated by multiplying the fraction of houses burning wood by the total number of houses. Table III in Northern California Research Associates' 1988 report "The California Residential Wood Consumption Survey," lists the estimated percentage of wood burning households by Air Basin.

Because the references used by ARB in developing base year emissions for this category do not report similar data for other years, Pechan compiled data from the Bureau of the Census and U.S. Department of Housing and Urban Development's "American Housing Survey for the United States" for 1987, 1989, 1991, 1993, 1995, and 1997 on the number of fireplaces without inserts in the West Region of the U.S. (HUD, 1997). (It should be noted that fireplaces with inserts are included in ARB's wood stove source category.) From this same source, Pechan also compiled data for these same years on the total number of occupied housing units in the West

Region and then developed the percentage of total occupied housing units that have fireplaces without inserts in the West Region for each year. Unfortunately, the 1997 percentages cannot be used as the data are not consistent with previous years due to changes to the questionnaire used:

YEAR	PERCENTAGE OF HOUSING UNITS WITH FIREPLACES WITHOUT INSERTS
1987	19.4
1989	18.1
1991	17.3
1993	15.6
1995	14.4
1997	6.5

It should be noted that these percentages are based on the total number of fireplaces without inserts, which includes some natural gas fireplaces. Based on DOE’s “Housing Characteristics” publications for 1993 and 1997, 86.5 percent of 1993 households with fireplaces used as secondary heating equipment in West Region used wood, with the remaining fireplaces using natural gas (DOE, 1997). The wood-fired percentage dropped to 84.4 percent of households in 1997. Because of the high percentage of total fireplaces without inserts that use wood, Pechan assumes that these data can be used in developing trends in wood burning fireplace activity.

Pechan also compiled data on the number of occupied housing units in each California county for 1980-1999 from the California Department of Finance (DOF, 1992 and DOF, 2000). These data were used in a multiple regression analysis to estimate the number of occupied housing units in California back through 1970 and forward through 2030. The analysis regressed the state-level number of occupied housing units against the following REMI variables: population, housing expenditures, and residential fixed investment. The regression analysis identified population data as strongly correlated with the number of occupied housing units (adjusted $r^2 = 0.996$; t-statistic of 67.42). The resulting regression equation was used with REMI population data to estimate occupied housing units growth surrogate data for 1970-2030.

The occupied housing units data were then multiplied by a factor representing the trend in the percentage of households that have fireplaces without inserts (based on the DOE West region data). Because percentages were only available for odd years between 1987 and 1995, Pechan interpolated the percentages for even years during this period. Pechan then applied a factor to each year’s growth surrogate data to adjust for the known trend in housing units with fireplaces without inserts. Specifically, Pechan applied a factor of 1 to every 1970-1987 record, and a factor of less than one for every post-1987 year. The post-1987 factors were based on the ratio of the current year’s percentage to the percentage in 1987. For example, a factor of .93 was applied to all 1989 records (.93 = 18.1/19.4). The 1995 factor was applied to all post-1995 records due to the lack of information about trends after that year.

Category 10. CES 54569 - Residential Fuel Combustion-Space Heating, Natural Gas

The emissions activity for this category is millions of cubic feet of residential natural gas consumed for space heating. ARB developed base year emissions data for this category by multiplying county-level residential natural gas consumption from the CEC by fractions representing the portion of total residential natural gas used for space heating (region-specific fractions were determined by ARB).

For this effort, Pechan obtained a file from the CEC providing residential “central space heating” natural gas demand for 1970-2017 for each of three gas service territories – Pacific Gas and Electric (PGE), Southern California Gas (SCG), and San Diego Gas and Electric (SDGE), and for 1980-2017, for an “other” territory designation (Gough, 2000). The “other” gas service territory, which represented less than 1 percent of total State natural gas demand in 1997, includes demand centers that are located in counties adjacent to the California-Oregon and California-Nevada borders, and a portion of San Bernardino county.

To develop growth surrogate data for this category, Pechan conducted multiple regression analyses with the state-level 1970-2017 residential “central space heating” natural gas demand data. The potential explanatory variables investigated in this analysis included: output and employment in the Real Estate sector; population; real disposable income; housing expenditures; and fixed residential investment. Based on the regression analysis, Pechan identified a strong inverse correlation (adjusted $r^2 = 0.936$, t-statistic of -26.15) between residential natural gas space heating demand and population (i.e., as population increases, the demand for natural gas for space heating declines). This result can be explained by increases in residential space heating energy efficiency. Pechan used the established regression equation and REMI population data to develop county-level residential space heating natural gas consumption throughout the analysis period.

Category 11. CES 54577 - Residential Fuel Combustion-Water Heating, Natural Gas

Millions of cubic feet of residential natural gas consumed for water heating is the emissions activity data for this source category. To develop base year emissions estimates, ARB multiplied total county residential natural gas consumption by region-specific fractions representing the percentage of total consumption used for water heating. The region-specific fractions were determined by ARB.

Pechan obtained a file developed by the CEC that provides residential “indirect hot water heating for clothes washing,” “indirect hot water heating for dishwashing,” “pool heating,” “hot tub fuel,” and “water heating” natural gas demand for 1970-2017 for each of three gas service territories (PGE, SCG, SDGE), and for 1980-2017, for an “other” territory designation (Gough, 2000). The “other” gas service territory, which represented less than 1 percent of total State natural gas demand in 1997, includes demand centers that are located in counties adjacent to the California-Oregon and California-Nevada borders, and a portion of San Bernardino county.

To develop growth surrogate data for this category, Pechan conducted an analogous multiple regression analysis to that described above for CES 54569. The analysis indicated that real disposable income is strongly correlated with CEC's total residential water heating natural gas demand data. Pechan used the identified equation and county-level forecasts of real disposable income from REMI to estimate the growth surrogate data for this category.

Category 12. CES 47332 - Agricultural Land Preparation

The number of acre-passes used in crop planting/harvesting is the emissions activity data for this category. The following equation identifies how emissions are estimated:

$$\text{Emissions}_{\text{crop}} = \text{Emission Factor} * \text{Acres}_{\text{crop}} * \text{Acre-passes/acre}_{\text{crop}}$$

In developing base year emissions, ARB used harvested crop acreage data from the California Department of Food and Agriculture (CDFA) and ARB estimates of the number of passes per crop.

Pechan developed acre-passes data for 1986-1998 from CDFA crop acreage data and crop profiles identified in ARB's Methods Manual (CDFA, 2000). Because of changes in the crops reported over the period, the first step in this process required that Pechan identify a consistent set of crops for which data are available throughout the 1986-1998 period. After identifying these crops, Pechan computed the total acreage for these crops in each year. In some rare instances, the CDFA did not report harvested acreage data for a small number of years for a county even though that county showed substantial acreage values for all other years throughout the period. For these instances, which are likely caused by confidentiality concerns, Pechan estimated missing year acreage values using linear interpolation. In cases where data were missing for initial years during the 1986-1998 period, Pechan estimated acreage totals using the first available year's acreage value. An analogous procedure was used to estimate values for missing acreage data occurring at the end of the 1986-1998 period. Pechan then compiled ARB's acre-pass profile values for over 150 crop types. These profiles were multiplied by the 1986-1998 county-level harvested crop acreage data to estimate the emissions activity for this source category (total annual acre-passes) over the 1986-1998 period.

Pechan conducted multiple regression analysis with a number of farm-related variables and identified an equation with the best statistical fit against the state-level 1986-1998 annual acre-passes data. This equation includes the following three explanatory variables: employment in the Agricultural Services sector (negative coefficient); employment in the Farm and Garden Machinery sector, and employment in the Farm sector (adjusted $r^2 = .854$; t-statistics of -6.380, 4.200, and 2.663, respectively). Pechan used the identified equation and REMI county-level historical and forecast employment data for these sectors to develop growth surrogate data for this category.

Category 13. CES 47340 - Farming Operations, Cattle Feedlot Dust

The emissions activity for this source category is based on beef cattle feedlot throughput. ARB defines beef cattle feedlot throughput as the number of beef cattle that have been confined in

feedlots for 4 to 5 months for fattening before marketing. For the purposes of estimating emissions, ARB relied on two sets of available data: (1) the state-level annual number of beef cattle marketed from feedlots; and (2) the monthly total number of cattle in feedlots by California District (these data are not equivalent to feedlot throughput). Pechan compiled the annual number of beef cattle marketed from California feedlots for 1970-1998. Data for 1970-1988 were from annual editions of *California Livestock Statistics*, published by the CDFA, while data for 1989-1998 were from the CDFA's *1998 Agricultural Resource Directory* (CDFA, 1988 and CDFA, 1998).

To geographically allocate state-level activity for this category, ARB also compiled data on the monthly number of cattle in feedlots for each of four California Districts. Pechan compiled these data for 1970-1988 from annual editions of *California Livestock Statistics* for the following four districts: Sacramento Valley, North Coast, Central Coast; San Joaquin Valley, less Kern County; Southern California & Kern County less Imperial Valley; and Imperial Valley. This report ceased publication after 1988. ARB averaged the monthly data over a 12-month period to disaggregate the throughput to the region level.

To develop 1970-1988 growth surrogate data for this category, Pechan used a combination of state-level feedlot throughput data and regional total feedlot cattle data. Specifically, Pechan developed regional growth factors based on allocating the state-level throughput data to regions using the total number of feedlot cattle in each year. These growth factors were applied to the 1987 activity data presented in Table III of Section 7.6 of ARB's Methods Manual to estimate the feedlot throughput for each county in a region. To develop 1989-1998 growth surrogate data, Pechan applied the state-level change in feedlot throughput to the estimated 1988 county-level surrogate activity data.

To assist in developing post-1998 emissions activity data for this category, Pechan conducted a regression analysis to identify surrogate indicators that historically correlated with the State number of cattle marketed from feedlots. Based on this analysis, Pechan identified a strong inverse correlation between output (sales) in the Meat Products sector and the number of cattle marketed from feedlots (adjusted $r^2 = 0.922$, t-statistic of -18.19). This indicates that as output in the Meat Products sector has increased historically, the number of cattle marketed from feedlots has declined. Pechan believes that one potential explanation for the historical inverse correlation is the shift in demand from beef to non-beef meat products (especially chicken).

Using the identified equation relating Meat Products sector output to the number of cattle marketed from feedlots and using REMI projections of the Meat product sector output, results in zero cattle marketed from California feedlots by the year 2007. Pechan contacted the California Cattlemen's Association (CCA) for insight into whether this is expected to occur. A CCA feedlot expert stated that the number of feedlots has declined in California since the 1950s because meat packing houses have moved from California to the Midwestern United States. The reason for this shift is the relative increase in California's labor costs. Although he could not speak to the number of cattle in feedlots, the CCA expert noted that there are approximately 15 cattle feedlots left in the State, with nearly all feedlots in the Imperial Valley. The CCA contact noted that one large feedlot currently exists in the Central Valley, and that this feedlot owns its own packing house, and is likely to remain in business. However, the other feedlots in Imperial Valley are

currently struggling to find a packing house and are considering building their own. He noted that if they are not able to do so, they will likely shut down. Given the uncertainty surrounding the future level of emissions activity for this category, Pechan incorporated a no growth assumption for all post-1998 years.

Category 14. CES 47357 - Building Construction Dust, Residential

The ARB emissions activity data for this source category is annual acre-months of residential construction. To develop these data for the base year inventory, ARB compiled the number of single-family and multi-family residential units constructed. The ARB's Methods Manual states that these data were obtained from the California Department of Finance (DOF). For this effort, Pechan compiled 1970-1999 residential permit data from the Construction Industry Research Board (CIRB), which is the original source of the California DOF data cited in ARB's Methods Manual (CIRB, 2000). Although the CIRB data are available by county from 1967-1999, it is important to note that the pre-1980 data are not comparable to the 1980-1999 data (prior to 1980, permits for alterations and additions of \$100,000 or more were counted as new construction). For the base year inventory, ARB converted the number of single-family and multi-family construction permits based on an assumed construction project duration of 6 months for both types of residential construction. ARB also assumed one-twentieth of an acre of construction for each multi-family unit and either one-fifth of an acre or one-seventh of an acre for each single-family unit. ARB assigned the one-fifth of an acre assumption to heavily populated counties (45 counties) and the one-seventh of an acre assumption to less populated counties (13 counties). Pechan used these ARB assumptions to convert the CIRB permit data to annual acre-months of residential construction.

Next, Pechan conducted a multiple regression analysis to identify variables that relate to annual acre-months of residential construction. Because of the change in the CIRB's new construction definition that occurred in 1980, Pechan only included 1980-1999 data in the regression analysis. Pechan regressed the 1980-1999 state-level annual acre-months of residential construction data against the following variables: employment and output in the Construction sector; population; employment and output in the Real Estate sector; and housing expenditures. The equation with the best statistical fit includes both employment and output in the Construction sector ($r^2 = 0.904$; adjusted $r^2 = 0.893$; t-statistics of -7.091 and 12.18, respectively).

Pechan used the Construction sector employment and output data and the identified equation to estimate growth surrogate data for this category. A review of the resulting data identified large growth rates over the forecast period. Pechan, therefore, developed final growth surrogate data for this category by using the regression-based values only for the years included in the regression analysis (1980-1999). For all other years, Pechan applied the trend in output in the Construction sector. This approach was used because Construction sector output had the strongest correlation with the historical emissions activity data for this category as identified from the regression analysis.

Category 15. CES 47365 - Building Construction Dust, Commercial

The emissions activity for CES 47365 is acre-months per year of commercial construction. ARB used commercial construction valuation data published by the California DOF in estimating base year emissions activity. For this effort, Pechan compiled available time-series commercial construction valuation data from the CIRB, which is the original source of the California DOF data cited in ARB's Methods Manual (CIRB, 2000).

For the base year inventory, ARB converted the total dollar of commercial building construction into acre-months per year based on an assumed 3.7 acres per million dollars of commercial construction valuation and an assumed construction project duration of 11 months. ARB first converted the dollar value of commercial construction from nominal dollars to real dollars using composite construction cost indices published by the U.S. Department of Commerce's Bureau of the Census. Pechan converted the county-level CIRB 1980-1999 commercial construction data to real dollars using the Bureau of the Census' fixed-weighted construction cost index.

As noted in the discussion above for CES 47357, the pre-1980 CIRB data are not comparable to the 1980-1999 data due to a change in the definition of new construction. After converting the CIRB 1980-1999 state-level commercial construction valuation data to real dollars using the U.S. Bureau of the Census' fixed-weighted construction cost index, Pechan converted these data to acre-months per year using ARB's base year emissions estimation assumptions and procedures. Pechan then developed a multiple regression analysis using this state-level data series and REMI state-level data for population and employment and output in the following sectors: Construction; Real Estate; and Commercial (a combination of the Finance, Insurance, and Real Estate; Retail and Wholesale Trade; and Services sectors). The equation with the best statistical fit includes both employment and output in the Construction sector as explanatory variables (adjusted $r^2 = 0.863$; t-statistics of 10.73 for construction output and -9.806 for construction employment). Pechan developed output from the identified equation after inputting REMI Construction sector output and employment data. A review of the resulting data indicated very large growth rates over the forecast period. Because Pechan deemed these growth rates as suspect, Pechan developed the final surrogate data for this category based on a combination of regression equation output (for 1980-1999) and output data for the Construction sector, which was the variable identified as most strongly correlated with the emissions activity data for this category for (for all other years).

Category 16. CES 47381 - Road Construction Dust

The ARB Methods Manual notes that the emissions activity data for this category is based on estimates of the number of miles of road built and the assumed acreage disturbed per mile of construction. The ARB estimated the number of miles built in the base year by taking the difference in total road miles between consecutive years. The ARB assumed that the number of acres disturbed varies for three road types: freeways, State highways, and city and county roads. The ARB cites the California DOF and the California Department of Transportation (Caltrans) as sources of the data on the miles of new road built.

Pechan compiled 1980-1998 data from Caltrans on the mileage of maintained roads by county and jurisdiction (Caltrans, 1990). After reviewing the 1980-1998 data series, Pechan contacted Caltrans to determine why there is a negative change in the miles of road maintained for numerous years within this time frame. Discussions with Caltrans failed to provide Pechan with an approach for overcoming this problem. Because of this shortcoming, Pechan will use ARB's current growth surrogate (i.e., employment in the Construction sector—SIC codes 15 through 17) to represent emissions activity for this category. Because REMI has developed forecasts for this variable under four different growth scenarios (i.e., best estimate, low, high, and cyclic), these alternative forecasts are available for use as growth surrogate data for this category.

Category 17. CES 47399 - Unpaved Road Travel Dust-City and County Roads

The ARB Methods Manual states that base year emissions for this category are based on the number of unpaved city and county road miles and an assumed 10 daily VMT per road mile. Pechan compiled 1981-1992 state-level data on unpaved city and county road mileage, which is available from Caltrans' "Assembly of Statistical Reports" for 1981-1992 (Caltrans, 1998). The Caltrans post-1992 data report total road mileage for city and county roads; since most city and county roads are paved, trends in these data were not used as a surrogate for trends in unpaved city and county road mileage. County-level unpaved road mileage data are not available for unpaved city and county roads (only total unpaved road data are reported by county).

Pechan conducted a multiple regression analysis to identify potential surrogates that correlate with the state-level 1981-1992 road mileage data. One of the potential explanatory variables included in this analysis was 1970-2020 light- and medium-duty truck (LDT and MDT) VMT data provided by the ARB Contract Manager. Based on the analysis, Pechan identified total LDT and MDT VMT data to be strongly correlated with unpaved city and county road mileage (adjusted $r^2 = 0.932$; t-statistic of -12.30). The analysis indicates an inverse correlation between the two variables (i.e., as LDT/MDT VMT increases, city and county unpaved road VMT declines). The likely explanation for this phenomenon is an increase in the relative proportion of LDT/MDT use on paved roads as there has been a substantial increase in the purchase and use of pick-up and sport-utility vehicles on paved roads. Pechan used the Air Basin/county-level LDT/MDT VMT data and the identified equation relating these data to unpaved city and county road VMT to estimate the trends in unpaved city and county road VMT from 1970 through 2030 (after extrapolating the available LDT/MDT VMT data to 2030). Pechan's review of the resulting estimates indicated near zero unpaved road mileage by the year 2030. In lieu of any information that this estimate is reasonable, Pechan employed the regression output as the growth surrogate data only for the years for which the regression analysis was conducted (i.e., 1981-1992). Post-1992 values were based on a no growth assumption since the strongest correlated variable (LDT and MDT VMT) indicated an inverse relationship; this assumption was also employed for all pre-1981 years.

Category 18. CES 47423 - Unpaved Road Travel Dust-Bureau of Land Management and Bureau of Indian Affairs Roads

The ARB Methods Manual states that base year emissions for this category were based on the number of unpaved Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) road miles and an assumed 10 daily vehicle miles traveled per mile of road.

Pechan compiled state-level data on unpaved road mileage for BLM and BIA roads, which is available from Caltrans for 1981-1992 (county-level data for BLM and BIA unpaved roads are not available). To estimate 1993-1996 BLM and BIA unpaved road miles, Pechan applied the rate-of-change in total BLM and BIA road mileage to the 1992 unpaved road mileage. This approach assumes that the trend in BLM and BIA total road mileage is the same as the trend in unpaved BLM and BIA road mileage. This assumption is supported by the fact that the vast majority of BLM/BIA roads are unpaved (e.g., approximately 97 percent in 1992).

Pechan conducted regression analyses to identify surrogates that correlate with the available 1981-1996 BLM and BIA unpaved road mileage data. The best statistical fit was identified with two surrogates: Population and the number of forestry and logging occupations (adjusted $r^2 = .761$, t-statistics of 7.039 and -2.505, respectively). Unlike the population variable, the forestry and logging occupations variable is inversely correlated to the emissions activity. This may result from a relative increase in demand for these roads for recreational use versus logging use. To develop growth surrogate data for this category, Pechan first used the REMI population and forestry and logging occupations data in the established equation described above. After identifying some data anomalies concerning large growth rates for this category, Pechan decided to employ a combination of regression output (for years covered by regression analysis) and trends in population for all other years as the growth surrogate data for this category. Pechan selected population data for this effort because the regression analysis indicated that these data were the most strongly correlated with the emissions activity data for this category.

Category 19. CES 47431 - Unpaved Road Travel Dust-Farm Roads

As described in ARB's Methods Manual, the base year emissions for this category are based on an assumed 175 VMT per 40 harvested acres of total non-pasture crops. The ARB obtained total non-pasture harvested crop acreage data from the CDFA.

Pechan compiled 1986-1998 county-level total non-pasture harvested acreage data from the CDFA (see the discussion for category 12 above for details on this compilation). To identify potential growth surrogates for this category, Pechan regressed the state-level harvested acreage data against multiple variables, including employment and output in the following sectors: Meat Products; Dairy Products; Farm and Garden Machinery, Food Manufacturing, Agricultural Services; and Farm. Pechan also included population as a potential independent variable in the regression analysis. Based on this analysis, Pechan identified two variables providing the best statistical fit: population and employment in the Farm and Garden Machinery sector (adjusted $r^2 = 0.793$, t-statistics of -5.098 and 4.111, respectively). The negative coefficient for the population variable can be explained by crop acreage losses as urbanization takes place.

Pechan prepared the growth surrogate data for this category from the identified equation that related population and employment in the Farm and Garden Machinery sector to total non-pasture harvested acreage data.

Category 20. CES 83337 - Fugitive Windblown Dust from Agricultural Lands (Non-Pasture)

ARB calculated base year emissions for this category using a wind erosion equation (WEQ) that develops emission estimates by month. There are many factors that go into this equation, including several factors that are crop-specific. The documentation for the emissions estimation procedure for this category does not describe the values for all of these factors. Even if these data were available, project resources would not be sufficient to calculate emissions by crop by month for each county. The ARB method uses total non-pasture harvested acreage excluding acreage from orchards and vineyards as a key input to the wind erosion equation. The ARB Contract Manager agreed that these data would be used to estimate emissions activity for this source category.

Pechan compiled 1986-1998 data from the CDFR representing total non-pasture harvested acreage excluding orchards and vineyards harvested acreage (see the discussion for category 12 above for additional information on this compilation). Pechan performed a multiple regression analysis to identify variables that correlate with the state-level 1986-1998 acreage data. Potential explanatory variables included in this analysis were: output and employment in the Farm sector; output and employment in the Farm and Garden Machinery Equipment sector; output and employment in the Food Manufacturing sector; output and employment in the Agricultural Services sector; and population. Based on the multiple regression analysis, Pechan identified the best statistical fit with population and employment in the Farm and Garden Machinery Equipment sector (adjusted $r^2 = 0.843$, t-statistics of -6.660 and 3.937, respectively). The potential explanation for the inverse correlation between population and non-pasture acreage is increased urbanization leading to conversion of agricultural land to non-agricultural uses.

To develop growth surrogate data for this category, Pechan compiled the 1970-2030 output of the equation described in the above paragraph after inputting REMI data for population and for employment in the Farm and Garden Machinery Equipment sector.

Category 21. CES 83352 - Fugitive Windblown Dust from Unpaved Roads and Associated Areas

The ARB emissions activity for this category is acreage of unpaved roads. ARB's Methods Manual describes estimating unpaved road acreage in the base year by multiplying total unpaved road mileage by an average unpaved road width of 20 feet. The unpaved road mileage data are from Caltrans' "Assembly of Statistical Reports."

Pechan compiled 1985-1992 total unpaved road mileage data by county from Caltrans' "Assembly of Statistical Reports" (Caltrans, 1998). Because county-level unpaved road mileage data were not available after 1992, Pechan estimated unpaved road mileage for 1993-1996 by multiplying the 1992 county unpaved road mileage data by the state-level ratio of unpaved road

mileage in each year to the 1992 unpaved road mileage. A review of the Caltrans data indicated a dramatic one-time drop in unpaved road mileage between 1986 and 1987. Because the pre-1987 data were nearly double the values for 1987-1996, Pechan excluded the 1985 and 1986 data from the regression analysis. Pechan conducted regression analyses from the 1987-1996 state-level unpaved road mileage data and determined that LDT/MDT VMT and population data provide the best statistical relationship with the historical unpaved road acreage data (adjusted $r^2 = 0.911$, t-statistics of -5.230 and 4.341, respectively). The likely explanation for the negative coefficient associated with LDT/MDT VMT data is an increase in the relative proportion of pick-up truck and sport utility vehicle use on paved roads as there has been a substantial increase in the purchase and use of these vehicles over the historical period.

To develop growth surrogate data for this category, Pechan first developed output from the equation identified above based on REMI population estimates and ARB LDT/MDT VMT estimates (extrapolated to 2030 by Pechan). This output presented zero state-level values by the year 2012. Because it is not clear that unpaved road mileage will decline to zero in the future, and because the variable with the strongest correlation to unpaved road mileage (LDT/MDT VMT) has an inverse relationship with the emissions activity data, Pechan implemented a no growth assumption for all post-regression years for this category. This assumption was also applied to all pre-regression years. Note that this approach is similar to that applied to category 17, which is a very similar source category.

Category 22. SCC 10100601; SIC code 4931 - Electric Generation, Natural Gas, Boilers > 100 MMBtu except Tangential

This is a point source category that is not included in ARB's Methods Manual. Based on the SCC, the emissions activity for this category is the amount of natural gas burned. Pechan first compiled Air Basin/District/county electric utility natural gas consumption projections from the CEC (Lerch, 2000b). Pechan compared these data to the complete list of Air Basin/District/county combinations in California. Pechan developed data for all missing combinations for which Air Basin-level data were available from the CEC source. Specifically, Pechan compiled data for these Air Basin/District/county combinations by assigning Air Basin-level data to these records from the appropriate Air Basin. As noted in Section III.D., ARB requested that Pechan use the CEC data as growth surrogates for all point sources with electric utility-related SIC codes (i.e., 4911 and 4931).

To represent pre-2000 data for this category, Pechan applied state-level growth rates to the CEC year 2000 data. For 1976-1998 these growth rates were compiled from CEC electric utility natural gas consumption estimates (Ewing, 2000). The 1999 rate was estimated based on the average historical growth rate over the 1976-1998 period (approximately 3.5 percent). The 1970-1975 growth rates were compiled from a DOE source of state-level energy consumption estimates (DOE, 2000).

To assist in forecasting growth surrogate data for 2021-2030, Pechan conducted a regression analysis of REMI variables to identify surrogates that correlated with the CEC's 2000-2020 data. The resulting equation identified output in the Electric Utility sector as strongly correlated with the CEC data (adjusted $r^2 = 0.984$; t-statistic of 35.63). Pechan compiled the 2020-2030 county-

level output from this equation based on REMI “best estimate” forecasts of Electric Utility sector output. Pechan then applied the growth rates from the regression output to the CEC values for 2020 to develop 2021-2030 growth surrogate data for this category.

Category 23. SCC 10100601; SIC code 4911 - Electric Generation, Natural Gas, Boilers > 100 MMBtu except Tangential

For this category, Pechan used the same growth surrogate data identified for category 22 above.

Category 24. CES 74682 - Cogeneration, Fuel Unspecified

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the total amount of fuel consumed in generating cogeneration energy.

To assist in developing growth surrogate data for this category, Pechan compiled 2000-2020 projections for total cogeneration (in billion kilowatt hours) for the Western Systems Coordinating Council/California-Southern Nevada (WSCC/CSN) from the AEO (DOE, 1998). The WSCC/CSN area approximates the State of California. Pechan developed a multiple regression analysis based on the AEO data and potential surrogate indicators to identify REMI variables that correlate with the AEO cogeneration data. The regression analysis indicated that Electric Utility output and Durables Manufacturing sector employment are statistically correlated with these cogeneration data (adjusted $r^2 = 0.993$; t-statistics of 54.18 and 4.132, respectively). To develop county-level growth surrogate data for this category, Pechan employed REMI data for 1970-2030 and the equation identified from the regression analysis.

Category 25. CES 82081 - I.C. Reciprocating Engines, Gaseous Fuel (Unspecified) (Oil and Gas Production)

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the total amount of natural gas consumed in reciprocating internal combustion engines that are used in the oil and gas production sector.

To develop 1970-1996 growth surrogate data for this category, Pechan used REMI county-level output data for SIC code 13 (Oil and Gas Extraction). For 1997-2020, Pechan used county-level REMI output data for SIC code 13 adjusted by National energy adjustment factors for the Mining sector. These mining sector energy adjustment factors were based on AEO forecasts. Pechan used the same approach to develop 2021-2030 growth surrogate data, with the exception that Pechan extrapolated the 2021-2030 energy adjustment factors based on the 2000-2020 Mining sector energy adjustment factors.

Category 26. SCC 20200202; SIC code 1311 - I.C. Engines, Reciprocating, Natural Gas (Industrial)

This is a point source category that is not included in ARB's Methods Manual. Based on the SCC and SIC code, the emissions activity for this category is the amount of natural gas burned in reciprocating internal combustion engines used within SIC code 1311.

To represent 1970-1996 growth surrogate data, Pechan used county-level REMI output data for SIC codes 131 and 132 (REMI does not report separate data for SIC code 131). For 1997-2020 growth surrogate data are based on REMI output data for SIC 131-2 after adjusting for the projected change in National natural gas use per output in the Mining sector as reported in the AEO (DOE, 1998). Pechan used an analogous approach to estimate 2021-2030 activity. For these years, however, Pechan employed National Mining sector natural gas intensity adjustments based on extrapolations of the adjustment factors developed from the 2000-2020 AEO projections.

Category 27. SCC 30600106; SIC code 2911 - Process Heaters, Process Gas-Fired (Petroleum Industry)

This is a point source category that is not included in ARB's Methods Manual. Based on the SCC and SIC code, the emissions activity for this category is the amount of process gas combusted in process heaters that are used in SIC code 2911.

For 1970-1996, Pechan used REMI SIC code 291 county-level output to represent growth surrogate data for this category. For 1997-2020, Pechan employed county-level REMI output data for SIC 291 after applying National adjustment factors representing the change in the amount of still gas consumed per unit of output in the refinery industry. These National adjustment factors were developed from data reported in the AEO (DOE, 1998). For 2021-2030, Pechan used the same approach as for 1997-2020 with the exception that Pechan developed National still gas energy adjustment factors based on extrapolations of the 2000-2020 AEO data.

Category 28. CES 66787 - Internal Combustion (I.C.) Reciprocating Engines, Natural Gas (Manufacturing and Industrial)

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of natural gas consumed in reciprocating internal combustion engines in the Manufacturing sector.

Growth surrogate data for 1970-1996 for this category are based on REMI output in the Manufacturing sector. To develop growth surrogate data for 1997 through 2030, Pechan used REMI output data for the Manufacturing sector after adjusting for the National change in natural gas use per unit of output in the Industrial sector. Data to develop the National change in natural gas use per unit of Industrial sector output were available from the AEO through 2020 (DOE, 1998). Pechan extrapolated the National change in Industrial sector natural gas intensity through 2030 based on the available AEO data.

Category 29. CES 47142 - Fuel Combustion, Other, Natural Gas (Manufacturing and Industrial)

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the total amount of natural gas consumed in the Manufacturing sector.

Pechan used the same data as described above for CES 66787 (category 28) to represent the growth surrogate data for this category.

Category 30. CES 83071 - Fuel Combustion, Other, Residual Oil (Manufacturing and Industrial)

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the total amount of residual oil consumed in the Manufacturing sector.

For 1970-1996 growth surrogate data, Pechan compiled REMI county-level output data for the Manufacturing sector. For 1997-2020, Pechan compiled REMI county-level output projections for the Manufacturing sector adjusted for the change in National residual oil consumption per dollar of output in the Industrial sector, which is available from the AEO (DOE, 1998). To develop emissions activity data for 2021-2030, Pechan computed composite REMI/AEO data. The energy intensity data for 2021-2030 was extrapolated from the 2000-2020 AEO energy intensity data.

Category 31. CES 83998 - Agricultural Irrigation, I.C. Engines, Diesel/Distillate Oil (Food and Agricultural Processing)

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of distillate oil consumed by I.C. engines used in providing irrigation for agriculture.

Pechan used REMI Farm sector output as the growth surrogate for this category for 1970-1996. For 1997-2020, Pechan used county-level REMI output data for the Farm sector adjusted for the change in National distillate fuel intensity for the Agricultural sector as developed from AEO data (DOE, 1998). For 2021-2030, Pechan used the same approach as for 2000-2020, with the exception that the change in National distillate fuel intensity for the Agricultural sector was extrapolated from the 2000-2020 change in distillate fuel intensity reported in the AEO.

Category 32. CES 47233 - Fuel Combustion, Other, Liquid Fuel (Unspecified) (Food and Agricultural Processing)

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the total amount of food and agricultural processing-based petroleum-related fuel combustion.

For 1970-1996, Pechan compiled REMI Farm sector output data as the growth surrogate for this source category. For 1997-2020, Pechan compiled county-level REMI output data for the Farm sector adjusted for the projected change in National petroleum energy intensity for the Agricultural sector. The National change in total petroleum intensity for the Agricultural sector was developed from projection data reported by the AEO (DOE, 1998). Pechan used an analogous approach to develop growth surrogate data for 2021-2030, with the exception that the National change in Agricultural sector petroleum intensity was extrapolated from the 2000-2020 change in petroleum intensity.

Category 33. CES 47167 - Fuel Combustion, Other, Natural Gas (Service and Commercial)

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of natural gas combustion occurring in the Service and Commercial sector.

To represent 1970-1996 growth surrogate data for this category, Pechan employed REMI county-level output data for the Services sector. For 1997-2030, Pechan utilized REMI Services sector output adjusted for the National change in natural gas intensity for the Commercial sector. The 1997-2020 change in natural gas intensity was developed from projected AEO data (DOE, 1998); the 2021-2030 natural gas intensity change was extrapolated from the 2000-2020 change derived from the AEO projections.

Category 34. CES 47159 - Fuel Combustion, Other, Distillate Oil (Service and Commercial)

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of distillate oil combusted in the Service and Commercial sector.

For 1970-1996 emissions activity for this source category, Pechan used REMI county-level output projections for the Services sector. For 1997-2030, Pechan used REMI county-level output projections for the Services sector adjusted for the National change in actual (1997-2020) and extrapolated (2021-2030) distillate fuel use per dollar of Commercial sector output. The National change in distillate fuel use per dollar of output was developed from AEO data (DOE, 1998).

Category 35. CES 57281 - Class II and III Landfills, Municipal Solid Waste

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of municipal solid waste in place in Class II and III landfills. The definitions for Class II and Class III landfills are based on landfill design (e.g., single liner) and siting criteria.

IWMB has county-level total landfill tonnage estimates for 1990-1999 (these estimates are not provided by landfill class). In addition, the IWMB has state-level estimates for 1989 (pre-

1989 data are not available because the impetus for collecting these data was the Integrated Waste Management Act of 1989). Pechan used the county-level tonnage estimates as the 1990-1999 growth surrogate data for this category.

Pechan conducted an analysis of the IWMB statewide landfill tonnage data regressed against the following REMI variables: population; employment and output in the Water and Sanitation Services sector; and total gross regional product (i.e., the total value of the State's economy). The regression analysis identified a strong statistical correlation between landfill tonnage and both population and total gross regional product (adjusted $r^2 = 0.964$; t-statistics of -4.095 and 11.54, respectively). Based on this analysis, Pechan used the established equation and the historical and forecast REMI data for these two variables to develop 1970-1990 and 1999-2030 landfill tonnage estimates. Pechan then developed county-level ratios of the 1990 tonnage estimates to the pre-1990 tonnage estimates from this equation. Pechan applied these ratios to the actual 1990 tonnage values to develop pre-1989 growth surrogate data. Pechan implemented an analogous procedure to develop post-1999 growth surrogate data.

Category 36. CES 83659 - Degreasing, Cold Cleaning (Batch, Conveyor, Spray Gun), Petroleum Naphtha

This source category is not discussed in ARB's Methods Manual; Pechan assumes that the amount of petroleum naphtha used in cold cleaning operations is the emissions activity for this source category.

No long-term California emissions activity data were identified for this category. To identify surrogate growth indicators for this category, Pechan compiled National special naphtha total demand and National special naphthas demand for cold cleaning data for 1987, 1989, 1992, 1993, 1996, 1998, 2003, and 2008 from two Freedonia Group, Inc. (Freedonia) reports – “Solvents to 2001,” and “Solvents to 2003” (Freedonia, 1997 and Freedonia, 1999b). Pechan then conducted a regression analysis that included Freedonia's special naphthas demand for cold cleaning data as the dependent variable. Pechan regressed the Freedonia data against employment and output data for the following surrogate indicators, which were identified as major degreasing/cold cleaning industries in a solvent cleaning/degreasing report produced for ARB by Pechan and/or the “Solvent Cleaning” chapter of the EIIP emission estimation report: Automobile Parking, Repair, and Services; Durables Manufacturing; and Total Manufacturing (Roe, 1996 and ERG, 1997a). Pechan used the National data for these sectors from the REMI standard model in the analysis. Based on the best-fit equation identified in the multiple regression analysis (adjusted $r^2 = 0.910$; t-statistics for Automobile Parking, Repair and Services of -3.488 and of Total Manufacturing output of 2.310), employment data for the Automobile Parking, Repair, and Services sector and Total Manufacturing output data are correlated to special naphthas demand for cold cleaning.

Pechan compiled 1970-2030 output from the identified equation using county-level REMI inputs for Automobile Parking, Repair and Services employment and Total Manufacturing output data. A review of the equation output identified very large values in the early years of the study period. The cause of this phenomenon is the major decline in special naphtha demand based on the Freedonia data that were used in the regression analysis. Because the regression approach resulted in unreasonable values for certain years, Pechan applied a no growth assumption in

developing growth surrogate data for years beyond the period included in the regression analyses (1987-2008). The no growth assumption was utilized because the most strongly correlated variable was identified as negatively correlated with naphtha demand.

Category 37. CES 58685 - Natural Gas Transmission Losses

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of natural gas transmitted.

Pechan was unable to locate information on the amount of California natural gas transmission activity. Pechan used the natural gas production data developed for CES 46441 to represent the growth surrogate data for this category (see the discussion for Category 04 above for details on how these data were developed).

Category 38. SCC 30500606 and SIC code 3241 - Cement Manufacturing (Dry Process)

This source category is not discussed in ARB's Methods Manual; Pechan assumes that the emissions activity for this category is based on the amount of dry process cement produced within SIC code 3241.

Pechan obtained portland cement production data for the State of California for the period 1980-1997 from the U.S. Geological Survey's web site (for 1992-1997) and the Bureau of Mines' "Minerals Yearbook, Mineral Industry Surveys; Volume II: Domestic" for earlier years (USGS, 2000 and BOM, 1992). Although data on masonry cement production were withheld from publication for most years due to confidentiality concerns, this omission has little impact on the total cement production estimate. For one year where masonry cement production was available (1996), masonry cement accounted for less than 2 percent of total cement production. Although the cement production data do not distinguish between dry and wet process, all production is assumed to be dry process because the U.S. Geological Survey indicates that all clinker plants in California used the dry process in 1994.

Pechan regressed 1980-1997 California portland cement production against California data from the REMI models for the following variables: employment and output in the Construction sector and employment and output in the Hydraulic Cement Manufacturing sector. A statistically significant relationship was identified between portland cement production and output from the Hydraulic Cement Manufacturing sector (adjusted $r^2 = 0.739$; t-statistic = 7.0). To develop growth surrogate data for this category, Pechan utilized the output of the identified equation relating portland cement production to output from the Hydraulic Cement Manufacturing sector.

Category 39. CES 85654 - Architectural Coatings, Oil-Based Industrial Maintenance Coating

This source category is not discussed in ARB's Methods Manual; Pechan assumes that the emissions activity for this category is the amount of solvents used in oil-based industrial maintenance coatings.

Because no California-specific information was identified for this category, Pechan compiled National production data for industrial maintenance paints from the Bureau of the Census publication *Census of Manufacturers*, "Paint and Allied Products" (Census, 1997b). Production data for these specific paints were only available for 1982-1984. However, production data were available from the Bureau of the Census for 1984-1998 for "industrial new construction and maintenance paints." Pechan applied the rate-of-change in the Census' 1984-1998 series to the Census' 1984 industrial maintenance paint value to estimate the post-1984 trend in industrial maintenance paints production over this period.

To identify surrogates relating to industrial maintenance paints production, Pechan regressed the National production series against National output and employment data for the following variables: Total Manufacturing; Durables Manufacturing; Chemicals Manufacturing; and Petroleum Refining. These last two variables were included because *The Rauch Guide to the U.S. Paint Industry, 1998-1999 edition*, indicated that these industries account for approximately one-half of the consumption of industrial maintenance paints (IMC, 1997). The identified best-fit equation includes output for both the Chemicals and Petroleum Refining sectors (adjusted $r^2=0.860$; t-statistics are 5.381 and -2.262 for Chemicals output and Petroleum Refining output, respectively). Pechan used REMI output data for these sectors and the identified equation to develop estimated growth surrogate data for this category. Based on the unreasonably large 1970-2030 growth rates from the resulting estimates and the limitations of the data used in the regression analysis (no California-specific data and lack of long-term data specific to maintenance paints), Pechan decided not to use the regression output in developing the growth surrogate data for this category. Instead, Pechan compiled REMI output data for the Chemicals sector. These data represent the most strongly correlated variable based on the regression analysis.

The 1998-1999 *Rauch Guide* states that solvent-based coatings account for nearly 75 percent of the total volume of industrial maintenance coatings. The *Rauch Guide* also notes that water-based paints "are growing at an above average rate, although they are not as efficient as solvent-based materials." The *Rauch Guide* notes that improved water-based formulations are continuing to be developed, so growth should be above average. However, Pechan was unable to identify any long-term data or forecasts on the amount of solvents used in industrial maintenance paints. Based on reports that water-borne coatings are expected to make significant in-roads in industrial maintenance markets and an estimate that the overall U.S. market for solvent-borne coatings is growing at one-half the overall coatings industry growth rate, Pechan assumed that post-1998 growth in oil-based industrial maintenance paints will occur at one-half the rate of total industrial maintenance paints (Hoffman, 1997 and Boswell, 1998). Pechan analogously adjusted the REMI Chemicals sector data for any areas with projected increases in Chemicals output. All pre-1998 emissions activity data were derived directly from the REMI output data in the Chemicals sector.

Category 40. CES 85852 - Architectural Coatings, Water-Based Flat Coatings

This source category is not specifically discussed in ARB's Methods Manual; Pechan assumes that the amount of water-based flat architectural coatings consumed is the emissions activity for this category.

Pechan was unable to identify long-term water-based flat architectural coatings consumption data. Pechan was able to compile 1985-1998 National data on production of water-based interior flat architectural coatings and water-based total exterior architectural coatings from the Bureau of the Census (Census, 1997a). To identify a growth surrogate for this source category, Pechan regressed the sum of these two data series for each year over the 1985-1998 period against National data for the following variables: output and employment in the Construction sector; housing expenditures; value of new commercial construction; population; and output and employment in the Real Estate industry. The multiple regression analysis indicated the best statistical fit with employment in the Real Estate industry (adjusted $r^2 = 0.798$; t-statistic = 7.23). Based on this analysis, Pechan used the Real Estate industry employment data from REMI's economic model in the identified equation to develop county-level growth surrogate data for this source category.

Category 41. CES 46870 - Cutback Asphalt

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of cutback asphalt used in road paving.

ARB contacted Caltrans to inquire about the availability of historical and projected data on cutback asphalt use. Caltrans notified Pechan that such data are not readily available. In keeping with previous ARB practice, Pechan used county-level employment in the Construction industry (SIC codes 15-17) to represent growth in this category.

Category 42. CES 66605 - Livestock Wastes

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the number of head of livestock in California.

Pechan compiled county-level 1970-1998 data on the number of head of cattle and calves, sheep and lambs, and hogs from the CDFA (CDFA, 1988 and CDFA, 1998). (It should be noted that Pechan also investigated the availability of data on the number of chickens from the CDFA, but found that the available data were not comprehensive nor available for a similar time frame as were the other livestock data.) Pechan prepared multiple regression analyses of these data with the following potential explanatory variables: employment and output in the Farm sector; employment and output in the Meat Products sector; employment and output in the Dairy Products sector. The analysis indicated that none of these regressors provide a statistically significant correlation with the number of livestock. This phenomenon is a result of the fact that

the State total number of head of these livestock has been fairly consistent throughout the period. Therefore, Pechan employed a no growth assumption to represent trends in this source category.

Category 43. CES 47241 - Agricultural Burning-Prunings

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of agricultural prunings burned represents the emissions activity for this source category.

The “Open Burning” section of EPA’s *AP-42* document lists emission factors for the following orchard crops: almond, apple, apricot, avocado, cherry, citrus (orange, lemon), date palm, fig, nectarine, olive, peach, pear, prune, walnut, and unspecified (EPA, 1999). Based on this information, Pechan compiled historical acreage data for the following CDFA commodity codes: 261999 (Almonds, All), 211999 (Apples, All), 217999 (Apricots, All), 221999 (Avocados, All), 213199 (Cherries, Sweet), 208059, 201119 (Oranges, Navel), 201519 (Oranges, Valencias), 201999 (Oranges, Unspecified), 204999 (Lemons, All), 224999 (Dates), 225999 (Figs, Dried), 218199 (Nectarines), 226999 (Olives), 212199 (Peaches, Freestone), 212399 (Peaches, Clingstone), 212999 (Peaches, Unspecified), 214199 (Pears, Bartlett), 214899 (Pears, Asian), 214999 (Pears, Unspecified), 215999 (Prunes, Dried), 263999 (Walnuts, English), and 265999 (Walnuts, Black). Pechan compiled these data from data provided by the CDFA (CDFA, 2000). After compiling harvested acreage data for these commodity codes, Pechan identified seven counties in ARB’s 1996 inventory with emissions for this category for which no CDFA acreage data are reported for the above crops.

Based on this information, the ARB Contract Manager agreed that Pechan would use total harvested non-pasture crop acreage data to represent the growth surrogate data for this category rather than the acreage data for crops with related emission factors in EPA’s *AP-42* document. Therefore, Pechan used the data developed for category number 19 above (CES 47431) to represent the growth surrogate data for this category.

Category 44. CES 47258 - Agricultural Burning-Field Crops

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of agricultural field crops burned.

EPA’s *AP-42* document lists the following field crops with emission factors for agricultural burning: asparagus, alfalfa, barley, beans (red), corn, cotton, hay (wild), oats, pea, pineapple, rice straw, safflower, sorghum, sugar cane, wheat, and field crops, unspecified (EPA, 1999).

Pechan compiled county-level 1986-1998 harvested acreage data from the CDFA for the following crop categories: 302199 (Asparagus, Fresh Mkt), 302299 (Asparagus, Proc), 302999 (Asparagus, Unspecified), 181999 (Hay, Alfalfa), 113944 (Barley Malting), 113995 (Barley, Feed), 113999 (Barley, Unspecified), 161717 (Beans, Red Kidney), 161722 (Beans, Sm Red), 111559 (Corn, White), 111991 (Corn for Grain), 111992 (Corn for Silage), 111998 (Corn, Crazy), 121219 (Cotton Lint, Upland), 121229 (Cotton Lint, Pima), 121299 (Cotton Lint,

Unspec.), 188799 (Hay, Wild), 112999 (Oats for Grain), 361199 (Peas, Green Fr. Mkt.), 361299 (Peas, Green, Processing), 361999 (Peas, Green, Unspecified), 362999 (Peas, Cowpea & Blackeye), 394999 (Peas, Edible Pod), 198199 (Rice, Wild), 158269 (Safflower), 114991 (Sorghum, Grain), 114992 (Sorghum, Silage), 131999 (Sugarcane), 101999 (Wheat All), and 198999 (Field Crops, Unspec.). These data were compiled from data provided by the CDFA (CDFA, 2000). The total State acreage for these crops was regressed against 12 potential explanatory variables. The best equation was identified with population and employment in the Farm and Garden Machinery Equipment sector (adjusted $r^2 = 0.883$; t-statistics of -8.506 and 3.538, respectively). The negative coefficient for population can likely be explained by increased urbanization resulting in less acreage utilized for agricultural use.

Pechan used REMI population and Farm and Garden Machinery Equipment employment data in the equation described above to develop state-level factors to apply to the actual 1986 and 1998 acreage values. A review of the resulting estimates indicated near zero values by the year 2030. Because it is unclear that this assumption is reasonable, Pechan implemented a no growth assumption to represent the growth surrogate data for this category for all non-regression analysis years (i.e., all pre-1986 and post-1998 years); the regression output was used for 1986-1998.

Category 45. CES 47282 - Range Improvement

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is the amount of rangeland burned to enhance the growth of grass for cattle.

Because Pechan was unable to identify long-term historical data on the amount of rangeland burned in California, the ARB Contract Manager concurred with Pechan's recommendation to use the number of acres of rangeland to represent the historical emissions activity data for this category. Pechan compiled 1988-1998 county-level pasture acreage data from CDFA. Pechan regressed these data at the state-level with the following variables: employment and output in the Farm sector; employment and output in the Meat Products sector; employment and output in the Food Manufacturing sector; and population. The best statistical fit was identified with two variables: population and employment in the Food Manufacturing sector (adjusted $r^2 = 0.880$; t-statistics of -8.555 and 2.714, respectively). As noted for other agriculture-related categories, the negative coefficient for the population variable can likely be explained by increased urbanization resulting in less acreage being used for rangeland.

Pechan used the REMI population and Food Manufacturing sector employment data in the equation described above to develop growth surrogate data for this category.

Category 46. CES 47274 - Forest Management

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the number of acres of prescribed burning activity for forest management is the emissions activity for this category.

Pechan obtained data from the California Department of Forestry and Fire Protection (CDFFP) for 1982-1999 on the number of Federal and private land acres burned by each of 27 regions (40 counties are included in these regions) in the State. These data exclude fire acreage data for numerous non-CDFFP jurisdictions. Specifically, the CDFFP data do not account for fires occurring on U.S. Forest Service, State Parks, National Parks, and Indian lands. Because of the level of effort associated with contacting several entities to obtain these data, along with the effort required to compile and reconcile the available data from each source, the ARB Contract Manager agreed with Pechan's assessment that it was infeasible to develop historical fire acreage data for this category. Pechan implemented a "no growth" assumption for this category because the level of emissions activity is not expected to trend with any socioeconomic variable.

Category 47. CES 47266 - Weed Abatement

Individual Air Districts have the responsibility for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of agricultural weeds burned. No data were located characterizing the level of this emissions activity. Pechan assumes that total non-pasture crops harvested acreage data excluding acreage from orchards and vineyards can be used to represent the growth surrogate data for this category. See the category 20 (CES 833337) discussion for a description of how these data were compiled from regression output.

Category 48. CES 47290 - Non-agricultural Open Burning

Individual Air Districts are responsible for estimating emissions for this category. Pechan assumes that the amount of non-agricultural debris burned is the emissions activity for this source category.

Pechan was unable to identify data characterizing the historical emissions activity for this category (e.g., Pechan contacted ARB to identify whether permit/compliance data were available that would represent activity levels for this category). Pechan assumed no emissions activity growth for this category for all counties where 80 percent or greater of the 1990 county's population was classified in urban areas based on Bureau of the Census estimates. This approach results in 25 counties with a no growth assumption applied. For the remaining counties, Pechan used REMI county-level population data as the surrogate growth indicator. Note that the 80 percent threshold was selected because this is EPA's current assumption for use in estimating open burning emissions (i.e., counties in the Nation with at least 80 percent of their population in urban areas are assumed to have no open burning emissions).

Category 49. CES 60418 - Commercial Charbroiling

Individual Air Districts are responsible for estimating emissions for this category. Pechan assumes that the emissions activity for this category is based on the amount of meat that is commercially charbroiled.

Pechan identified that the San Diego Air District estimated the emissions activity for this category based on the total number of food service facilities (from food service inspection records) and the assumption that 1 out of every 10 such facilities does charbroiling. Because the *Census of Retail Trade* is published every 5 years, Pechan compiled data on the number of “refreshment places” as reported in this publication for each 5 years in the period 1972-1997 (Census, 1997d). Refreshment places were identified as the activity data that was expected to most closely approximate the trend in the number of establishments where charbroiling takes place. As defined by the Census, this category includes “establishments that prepare items such as chicken and hamburgers for consumption either on or near the premises or for “take-home” consumption. (Because the 1997 *Census of Retail Trade* no longer uses the same categorization for the eating and drinking sector as previous sectors, Pechan used the number of establishments in the “limited-service restaurants” category, which includes “establishments primarily engaged in providing food services where patrons generally order or select items and pay before eating.”)

Next, Pechan regressed the 1972-1997 number of refreshment places in California against REMI California output and employment data for the Eating and Drinking Places sector (SIC code 581). The regression analysis indicated that output from this sector provided a strong correlation with the number of refreshment places (adjusted $r^2=0.957$ and t-statistic = 10.55). Pechan used the identified equation and REMI output data for the Eating and Drinking Places sector to develop growth surrogate estimates for this category.

Because the regression-based estimates resulted in extremely large growth rates over the study period, Pechan developed the final growth surrogate data by combining the regression output for 1972-1997 (the years for which the regression analysis was conducted) and the county-level trend in Eating and Drinking Places sector output. This sector’s output was used to reflect pre-1972 and post-1997 trends for this category because it was identified by the regression analysis as statistically correlated with the number of refreshment places.

Category 50. SCC 20200202; SIC code 4922 - I.C. Engines, Industrial, Natural Gas, Reciprocating

As a point source category, this category is not discussed in ARB’s Methods Manual; Pechan assumes that the emissions activity for this category is based on the amount of natural gas combusted in internal combustion engines used in SIC code 4922 establishments.

To assist in developing growth surrogate data for this category, Pechan conducted a multiple regression analysis of state-level CEC natural gas consumption data for the Transportation sector within SIC codes 491-493, 496, 498. Based on this analysis, Pechan identified a statistically significant relationship between the CEC natural gas consumption data and the following two explanatory variables: employment in the Gas Utilities sector (SIC code 493 and part of SIC code 492) and output in the Crude Petroleum, Natural Gas, and Gas Liquids sector (adjusted $r^2 = .907$; t-statistics of 3.183 and 5.583, respectively). To develop growth surrogate data for this category, Pechan used the equation determined from the regression analysis and REMI data for the two explanatory variables.

D. ELECTRIC UTILITY-RELATED CATEGORIES

After initiating the analysis of growth surrogates for the 50 ARB-identified categories, ARB requested that Pechan incorporate CEC data as a surrogate growth indicator for all electric utility-related point sources. This section describes the final approach used to develop growth surrogate data for these sources.

For any point source category that is assigned an SIC code of 4911 or 4931, Pechan selected a CEC fuel use data series as the 2000-2020 growth surrogate data. As identified in the below table, Pechan selected the appropriate data series based on each record's EIC and SCC:

EIC	SCC	CEC Electric Generating Fuel Use Data Series
<=99999999999999	Any natural-gas using	Natural gas fuel use
<=99999999999999	All excluding natural gas	Total fuel use excluding natural gas
> 99999999999999	Any	Total fuel use

For the first row above, Pechan used the approach described for category number 22 (SCC 10100601; SIC code 4931) in Section III.C.4 to develop pre-2000 and post-2020 data for natural gas combustion point sources with SIC codes 4911 and 4931.

For the inventory records associated with the second row in the above table, Pechan first compiled CEC data for 2000-2020 reflecting total non-natural gas fuel use data by Air Basin/District/county. Pechan then compiled data for all Air Basin/District/county combinations for which CEC did not report data, but for which Air Basin-level data were available. Pechan assigned Air Basin-level data to these Air Basin/District/county combinations. Pechan applied a no growth assumption to develop growth surrogate data for 2021-2030 for this category. This assumption was employed because there is no change in the CEC fuel use values for this category over the 2010-2020 period. For pre-2000 estimates, Pechan applied state-level growth rates to the 2000 CEC fuel use data. Pechan used DOE electric utility non-natural gas energy consumption data to represent 1970-1975 trends. For 1976-1998, Pechan used CEC's state-level electric generation fuel consumption data excluding natural gas. For 1999, Pechan assumed no growth based on the less than one percent average annual growth rate in non-natural gas electric utility fuel use over the 1976-1999 period.

For the third row above, Pechan first compiled CEC data for 2000-2020 reflecting total electric utility fuel use data by Air Basin/District/county. Pechan followed a similar approach to that described above for the other electric utility-related growth parameters in estimating data for missing Air Basin/District/county combinations. For 2021-2030, Pechan used the change in REMI Electric Utility sector output adjusted by an equation relating CEC 2000-2020 electric generation total fuel use data to Electric Utility sector output. This equation was developed from a multiple regression analysis that indicated a strong statistical relationship between the two variables (adjusted $r^2 = 0.985$, t-statistic = 35.90). For pre-2000 growth surrogate data, Pechan applied state-level growth rates to the 2000 CEC total fuel use data. Pechan utilized DOE electric utility energy consumption data to represent growth rates over the 1970-1975 period (DOE, 2000). For 1976-1998, Pechan employed CEC total electric generation fuel consumption

data (Ewing, 2000). For 1999, Pechan used the average annual growth rate over the 1976-1998 period (approximately 1.5 percent) calculated from the historical CEC data.

SECTION IV SUMMARY AND CONCLUSIONS

A. SUMMARY OF RESULTS

In this study, Pechan has developed emission growth surrogate data that improves upon the surrogate data currently employed by ARB. In addition to providing a more current set of data, the following highlights some of the improvements provided by this study:

- Growth surrogates that are applied by SIC code are now generally defined based on 3-digit SIC codes, rather than 2-digit SIC codes. The new data, therefore, provide a more detailed match to the SIC code information in ARB's emission inventory;
- A large number of growth parameters have now been defined by a combination of SCC and SIC codes. These growth parameters, which are assigned to fuel combustion sectors in ARB's point source inventory, reflect projected changes in energy intensity based on DOE fuel price and energy efficiency improvement forecasts;
- Incorporation of actual emissions activity data into the historical growth surrogate data set for several source categories, including use of beef cattle feedlot throughput for the cattle feedlot dust source category;
- Detailed review and analysis of potential growth surrogates for the largest emitting and other key source categories, including use of regression analysis to statistically identify the relationship between historical emissions activity data and growth surrogate data.

To summarize the scope of this effort, Table IV-1 displays the number of growth parameters available under each of the four alternative growth scenarios. Growth parameter counts are identified by the general approach used in developing growth surrogate data. As indicated by this table, there are 44 growth parameters that are not included in the high, low, and cyclic growth scenarios. These parameters are presented in Table IV-2. Pechan generally developed the growth surrogate data for these parameters using the regression-based approach summarized in Section III.C.3. This table also briefly describes the source of the data provided by identifying the "PARAMETER COMMENT" field value as reported in the PAD file. Section III.C.4 provides a more detailed discussion of how these data were compiled.

Figures IV-1 through IV-12 display the state-level trends in the growth surrogate data assigned to the twenty highest emitting point and non-mobile area source categories identified from ARB's 1996 emissions inventory. These twenty source categories accounted for approximately two-thirds of the point and non-mobile area source emissions in 1996. For

consistency, all growth surrogate data are presented in index form with 1996 values set equal to 1.0.

Figure IV-1 displays the 1970-2030 state-level trend in the growth surrogate data for the Residential Wood Combustion, Fireplaces source category. This figure indicates steady, but slow growth in this category over the bulk of the forecast period with the exception of the 1988-1995 period. Over this period, a combination of slowing population growth and data indicating a decline in the percentage of houses with fireplaces without inserts created an overall reduction in the growth surrogate data for this category. Because it was not clear that this trend will continue, especially given recent fuel price and electricity market concerns, Pechan forecasts an increase in state-level activity for this category based on Pechan's projected growth in occupied housing units.

Figure IV-2 presents the Pechan state-level forecast trend for acre passes, which is used as the growth surrogate data for the Agricultural Land Preparation source category. The available historical data indicated a decline in this activity, and Pechan is projecting that this trend will continue over the forecast period as urbanization continues and farms increase use of low and no-till practices

Figure IV-3 identifies the state-level trend in number of unpaved city and county road miles over the study period. This trend is used as the growth surrogate for the Unpaved Road Travel Dust-City and County Roads source category. The available historical data for this category indicated a decline in unpaved city and county road miles, and Pechan's analysis indicated a strong inverse correlation between these data and LDT/MDT VMT data. Employing the regression equation identified in Section III to project beyond the years of available unpaved road mileage data, resulted in near zero state-level unpaved road mileage values in the later years of the forecast period. Because it is not clear that this represents a reasonable outcome, Pechan has chosen to employ a conservative no growth assumption for this category for the period beyond the available historical data. For consistency, this assumption was also employed for the period before the available historical data.

Figure IV-4 presents the long-term trend in state-level unpaved road mileage for BLM and BIA roads, which is used for the Unpaved Road Dust category that covers these roads. The historical period with available unpaved road mileage data indicated an increase in the emissions activity for this category. Pechan's analysis forecasts this trend to continue as additional people take advantage of recreational activities on these lands. This trend is commensurate to the trend in increased sport-utility vehicle registrations that facilitates these opportunities.

Figure IV-5 displays Pechan's state-level forecast trend for non-pasture harvested acreage data, which is used as the growth surrogate data for the Unpaved Road Travel Dust-Farm Roads source category. This source category has experienced a decline in activity over the historical period similar to, but slower than, the decline in acre passes shown in Figure IV-2. Pechan projects a modest decline in activity for this category based on the outcome of a regression analysis indicating a correlation between the level of non-pasture harvested acreage and data for both population and employment in the Farm and Garden Machinery sector.

Figure IV-6 presents the state-level trend in total non-pasture harvested acreage data, excluding orchards and vineyards, over the study period. This trend is used as the growth surrogate for the Fugitive Windblown Dust from Agricultural Lands source category. The available historical data indicated a reduction in this activity. Pechan's regression analysis projects this trend to continue over the forecast period as increased urbanization reduces the amount of state-level harvested acreage.

Figure IV-7 identifies the 1970-2030 state-level trend in the growth surrogate data for the Fugitive Windblown Dust from Unpaved Roads and Associated Areas source category. These data are based on the total acreage of unpaved roads. The historical trend indicated a reduction in unpaved road acreage, and Pechan's regression analysis projected this trend to continue, with zero unpaved road acreage occurring in the forecast period. As with the unpaved city and county roads category, Pechan has chosen to employ a conservative no growth assumption for this category because it is not clear that zero unpaved roads acreage represents a reasonable scenario.

Figure IV-8 presents the Pechan state-level forecast trend for landfill tonnage, which is used as the growth surrogate data for the Class II and III Municipal Solid Waste Landfills source category. The available historical data indicated an initial decline in landfill tonnage, followed by an increase. Pechan's regression analysis indicated a strong relationship between tonnage and both population and total gross regional product. Based on this analysis, Pechan projects a positive trend in emissions activity for this category over the forecast period.

Figure IV-9 displays the long-term trend in state-level harvested acreage data for field crops that are associated with burning activity. These data are used as the growth surrogate for the Agricultural Burning-Field Crops source category. Based on the available harvested acreage data for these crops, the historical data indicate a decline in emissions activity for this category. Based on Pechan's regression analysis, harvested acreage data are estimated to decline to near zero in the latter years of the forecast period. Because of the uncertainty of this assumption, Pechan has chosen to implement a conservative no growth assumption for this category. This assumption is applied to all years for which historical harvested acreage data were not available.

Figure IV-10 identifies Pechan's state-level forecast trend for residential renewable energy use, which is the growth surrogate data used for the Residential Wood Combustion, Wood Stoves source category. In lieu of historical time-series data specific to wood stove use, Pechan has chosen to assign a composite growth factor for this category that is based on the combination of Pechan's projected trend in occupied housing units, adjusted by the AEO national forecast of the amount of renewable energy (mostly comprised of wood) that is projected to be used per household. Pechan's forecast represents a very modest increase in emissions activity for this source category over the forecast period.

Figure IV-11 presents the trend in state-level on-road VMT, which is used as the growth surrogate data for the Paved Entrained Road Dust-Local Streets and Major Streets source category. The 1970-2020 on-road VMT data were supplied by ARB; Pechan extrapolated the VMT trend to 2030 based on the 1970-2020 data. As indicated by Figure IV-11 this source category has undergone steady growth over the historical period, and is projected to continue to do so in the forecast period.

Figure IV-12 displays the state-level trend in Construction sector employment over the study period. This trend is used as the growth surrogate for the Road Construction Dust source category because of the unavailability of historical time-series data on the number of miles of road built. The historical trend indicates an overall trend toward increased employment. However, there are periods where Construction employment has declined, reflecting recessionary periods in the State's economy. The REMI "best estimate" forecast is for modest increases in Construction employment.

Figure IV-13 presents a comparison of the Construction employment surrogate data under all four alternative forecast scenarios. As indicated by the figure, employment in this sector is projected to grow approximately 25 percent between 1996 and 2030 under the best estimate forecast scenario. The low growth scenario projects approximately 5 percent lower growth over the period, while growth is projected to be nearly 10 percent greater under the high growth scenario. The cyclic forecast scenario indicates projected expansions and contractions in Construction sector employment in the forecast period. A description of the assumptions used in developing these alternative forecast scenarios is provided in Section III.A.2.

B. STUDY LIMITATIONS AND RECOMMENDATIONS

Developing consistent long-term historical and forecast emissions activity data is a resource-intensive process often hampered by data limitations. In many cases, long-term historical data are not available below the state level, and for some source categories, no state-level emissions activity data were identified. ARB acknowledges these limitations in developing base year emission estimates for many area source categories. For example, estimates of automotive refinishing emissions are based on National production data and the following assumptions:

- Production is equivalent to consumption;
- California's consumption of National automotive refinishing paints is proportional to the proportion of California vehicle registrations to National vehicle registrations; and
- County-level consumption is proportional to the proportion of each county's population to State population.

The limitations associated with these emission estimation methodologies affect the ability to develop California-specific data for use in identifying growth surrogate data for this effort.

In addition, Pechan notes that long-term historical emissions activity data were not available for most of the source categories identified by ARB for detailed analysis. As noted in Pechan's proposal for this study, Pechan was relying on the availability of valid long-term historical emissions activity data from the ARB. Further discussion with ARB identified that these data were not available. In many cases, it was therefore necessary to limit the regression analyses to a relatively short time-frame. This complicates efforts to develop accurate long-term forecasts given the perturbations that can occur over short time-frames. (This explains the necessity for Pechan to judgmentally adjust the regression-based forecasting data for several source categories.) Pechan also notes that it would have been possible to identify and compile historical

emissions activity data for additional source categories if additional project resources were available. For example, Pechan was unable to obtain prescribed burning acreage data for the numerous non-CDFFP jurisdictions for the forest management source category (CES 47274). Additional resources also would have permitted Pechan to develop alternative growth scenario projections data for the forecasts that are based on regression analyses. Even with these limitations, however, Pechan believes that the results of the detailed analyses conducted under Task 2 and 3 of this contract significantly improve upon the growth surrogates that ARB currently employs.

Given the dynamic nature of the California economy, Pechan recommends that ARB conduct regular updates to its growth surrogate data. Forecasts can become outdated as the economy responds to governmental policies, technological advances, and other unforeseen circumstances (e.g., the recent effects of the combination of electricity market deregulation and higher fuel prices). To ensure that forecasts are based on the most up-to-date economic conditions, it is necessary for ARB to periodically review and update its growth surrogate forecasts. This will help to ensure that ARB policies reflect the best available information. Pechan also presents the following emission inventory improvement recommendations for ARB consideration:

- Given the numerous invalid/outdated SIC codes identified in ARB's point source emissions inventory, ARB/Air Districts should review and update the SIC code assignments in the inventory to ensure that they are correctly identified;
- ARB should update the 1996 emissions inventory for source categories for which Pechan has identified available emissions activity data for 1996. In reviewing the emissions activity data for certain source categories, Pechan discovered a number of instances where 1996 inventory data were based on 1987 emissions activity data grown to 1996 based on an economic surrogate. In comparing the 1996 emissions activity data reviewed for this study with the 1996 emissions inventory, Pechan identified a number of instances where counties with 1987 emissions have not had emissions activity for several years. Pechan also identified similar instances where counties with 1996 emissions activity data do not show emissions in ARB's 1996 inventory.

Pechan recognizes that budget constraints may limit ARB's ability to implement these recommendations.

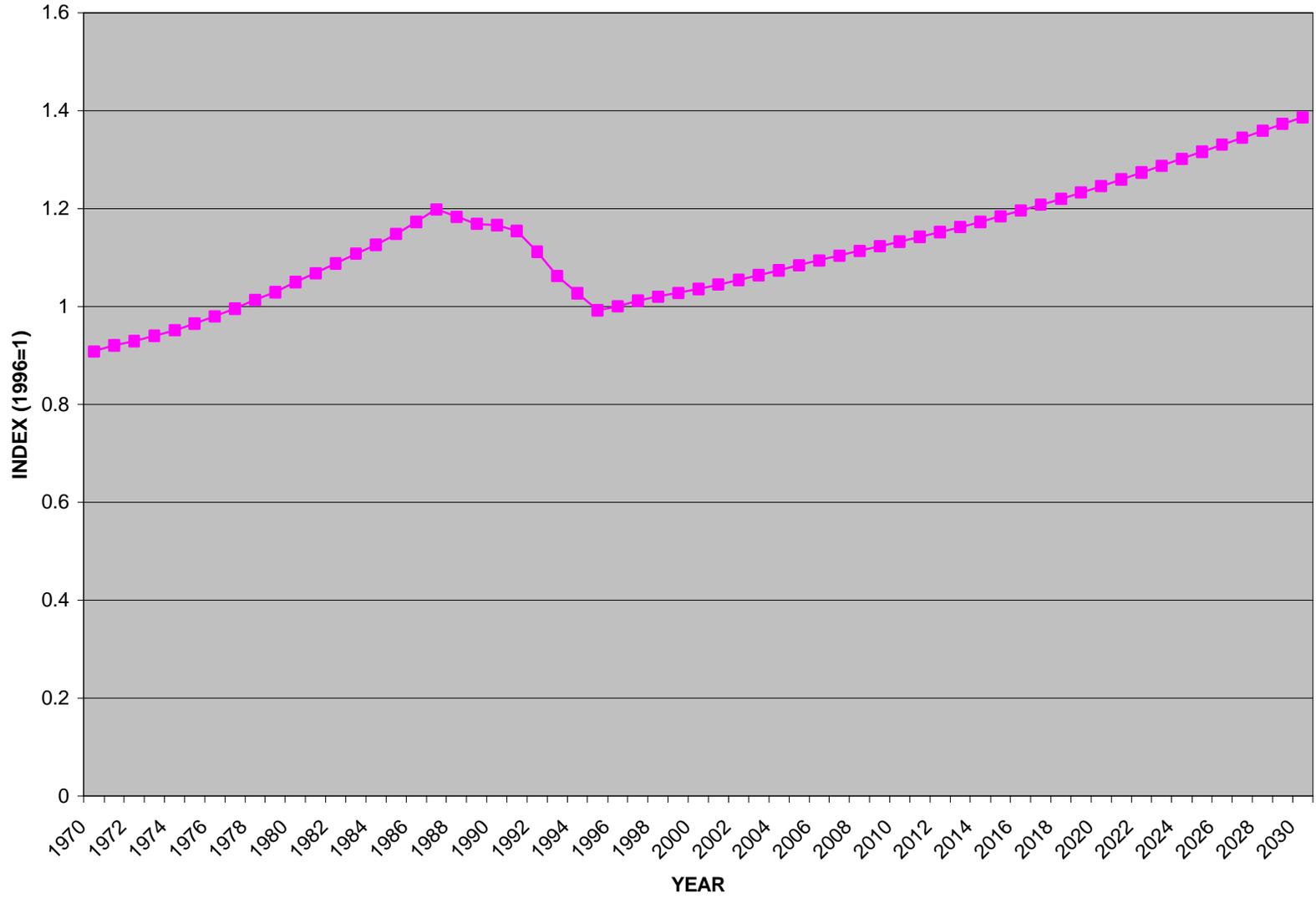


Figure IV-1. Residential Wood Combustion, Fireplaces

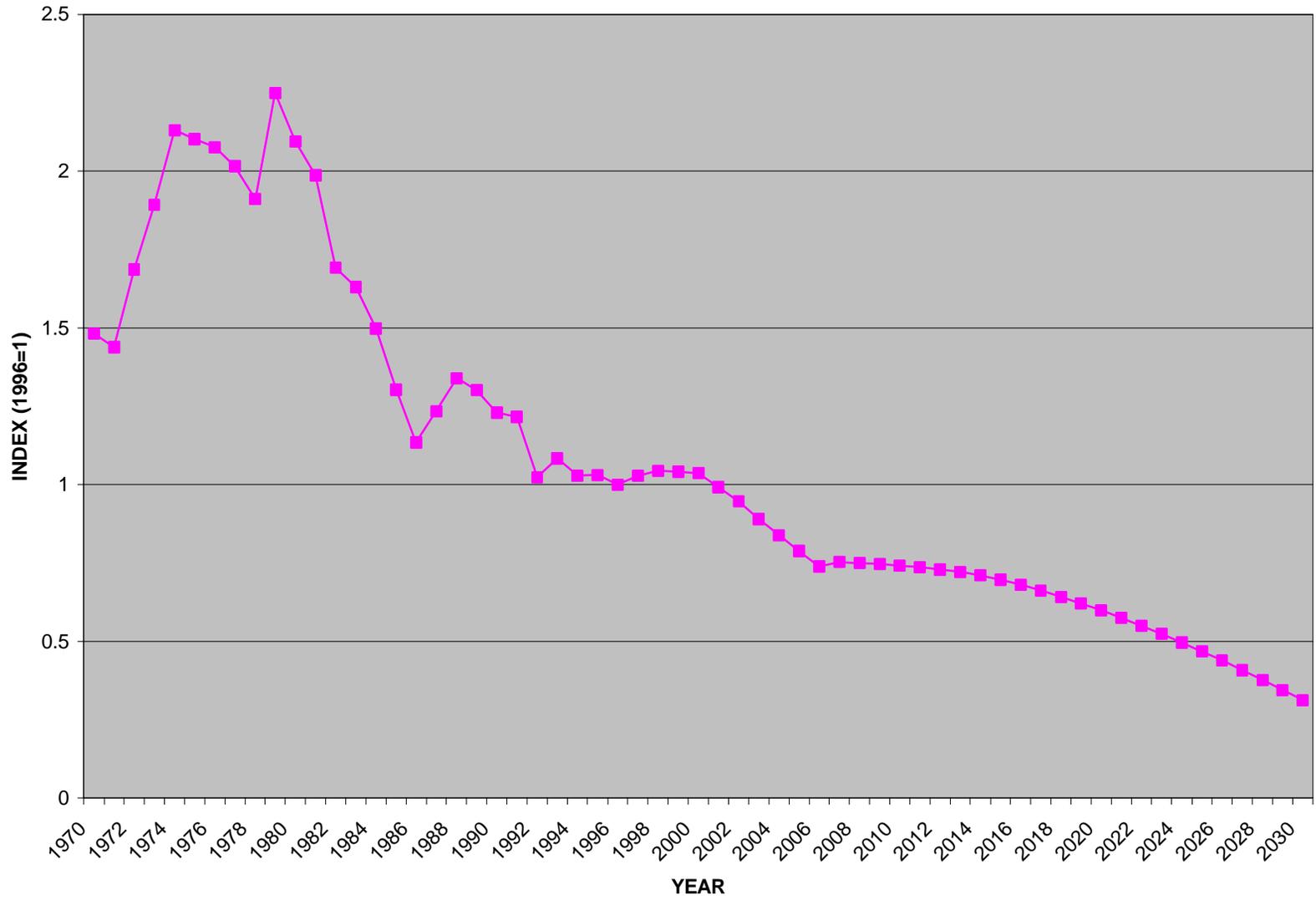


Figure IV-2. Agricultural Land Preparation

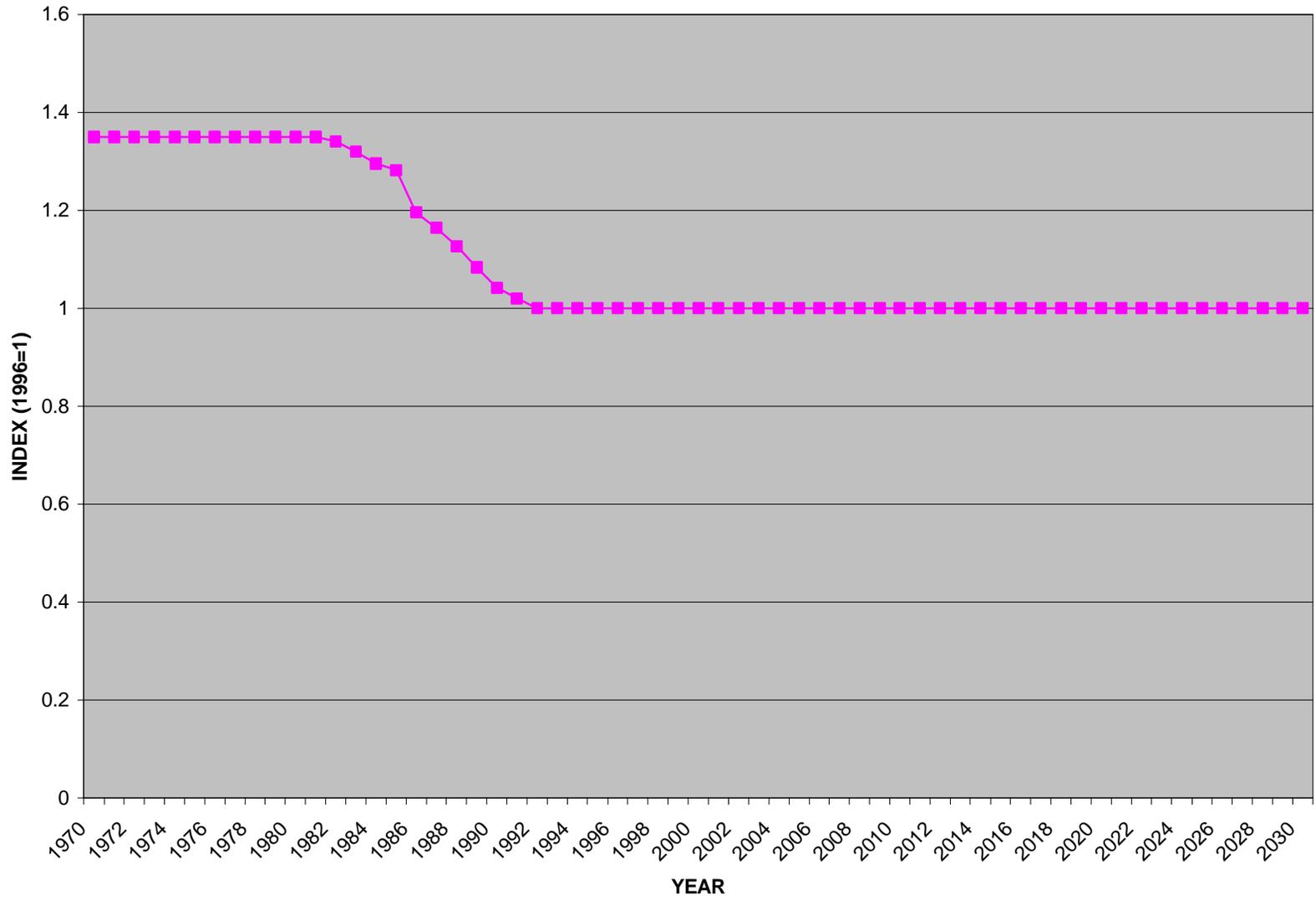


Figure IV-3. Unpaved Road Travel Dust - City and County Roads

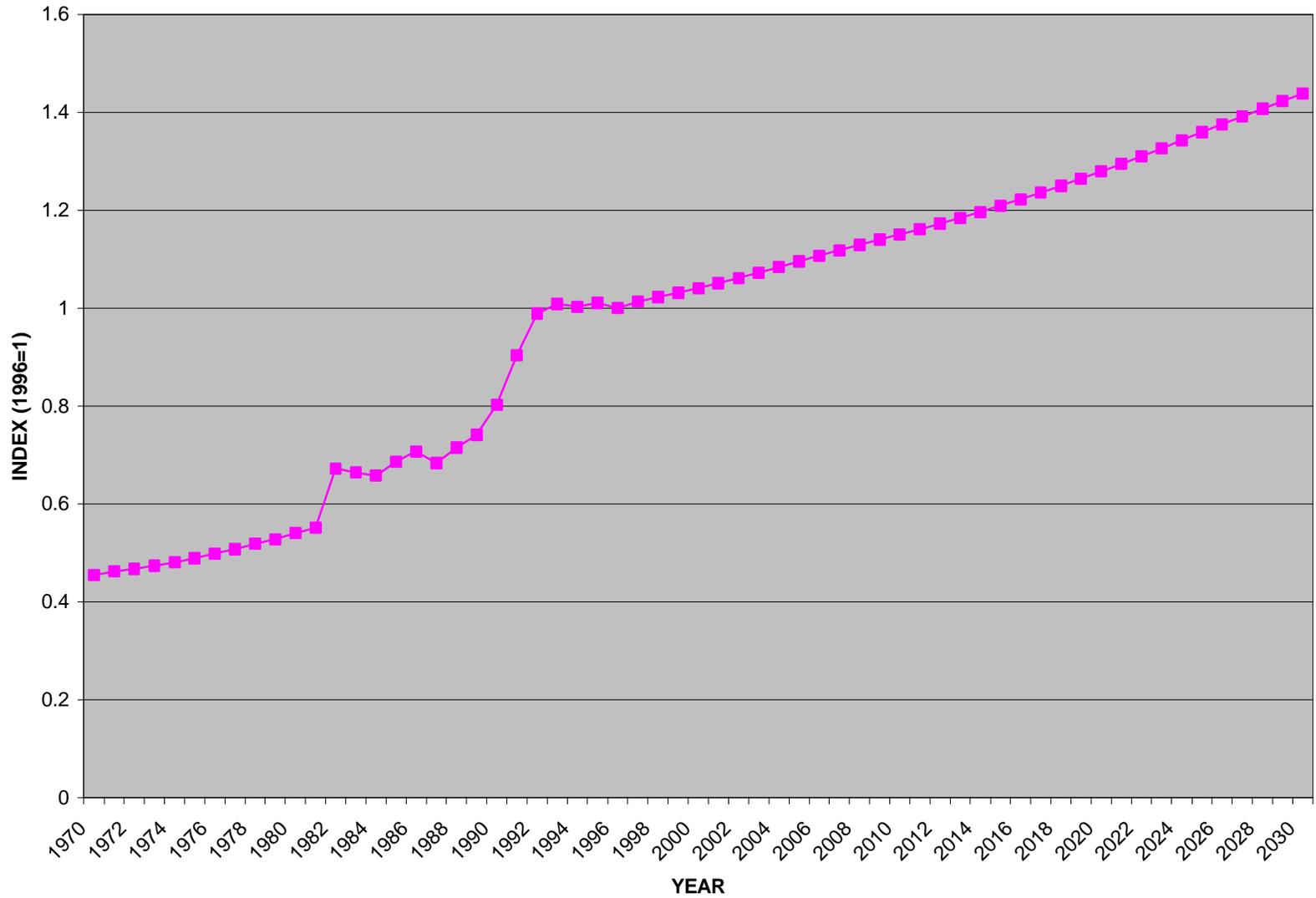


Figure IV-4. Unpaved Road Travel Dust - Bureau of Land Management and Bureau of Indian Affairs Roads

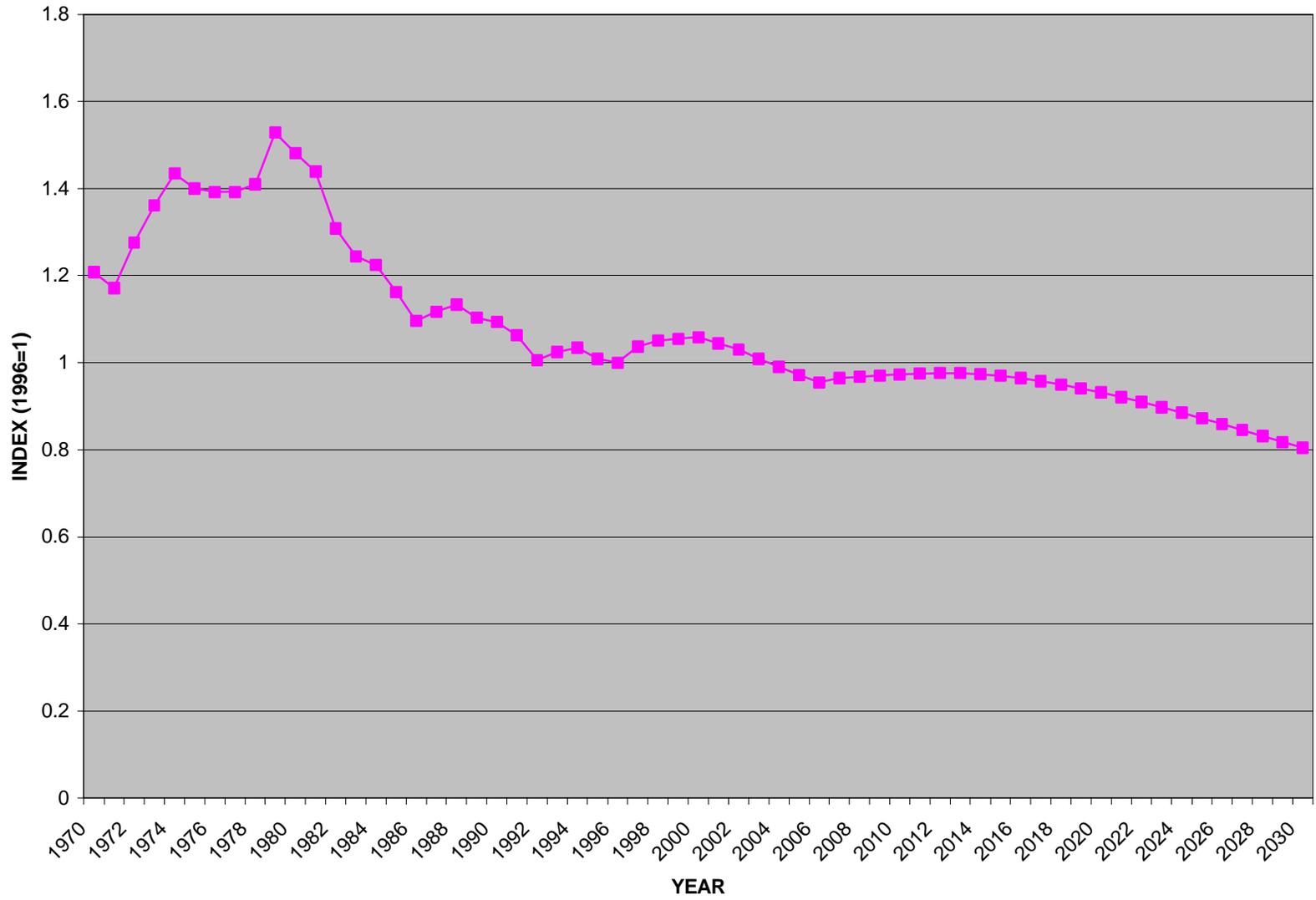


Figure IV-5. Unpaved Road Travel Dust - Farm Roads

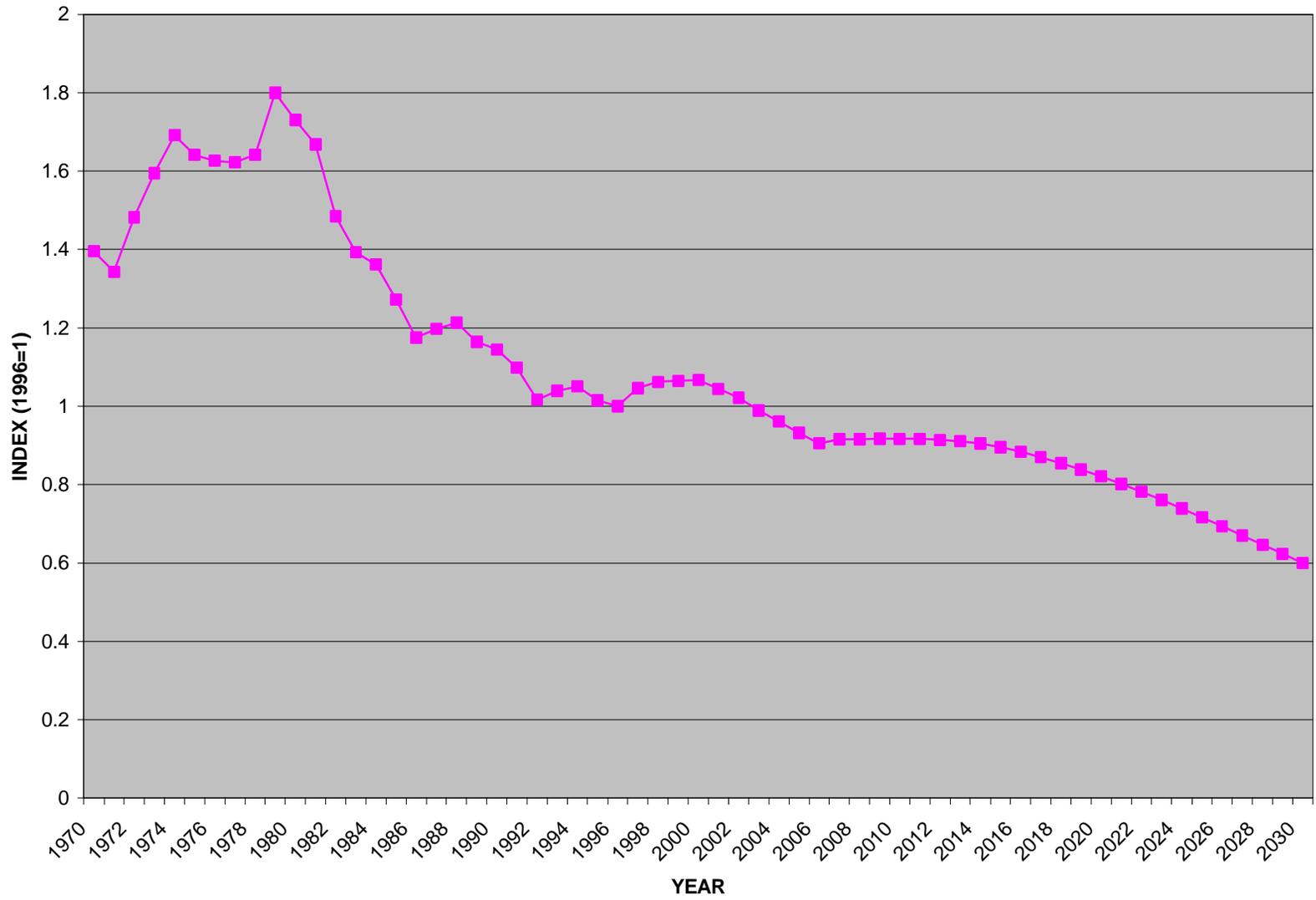


Figure IV-6. Fugitive Windblown Dust from Agricultural Lands (Non-Pasture)

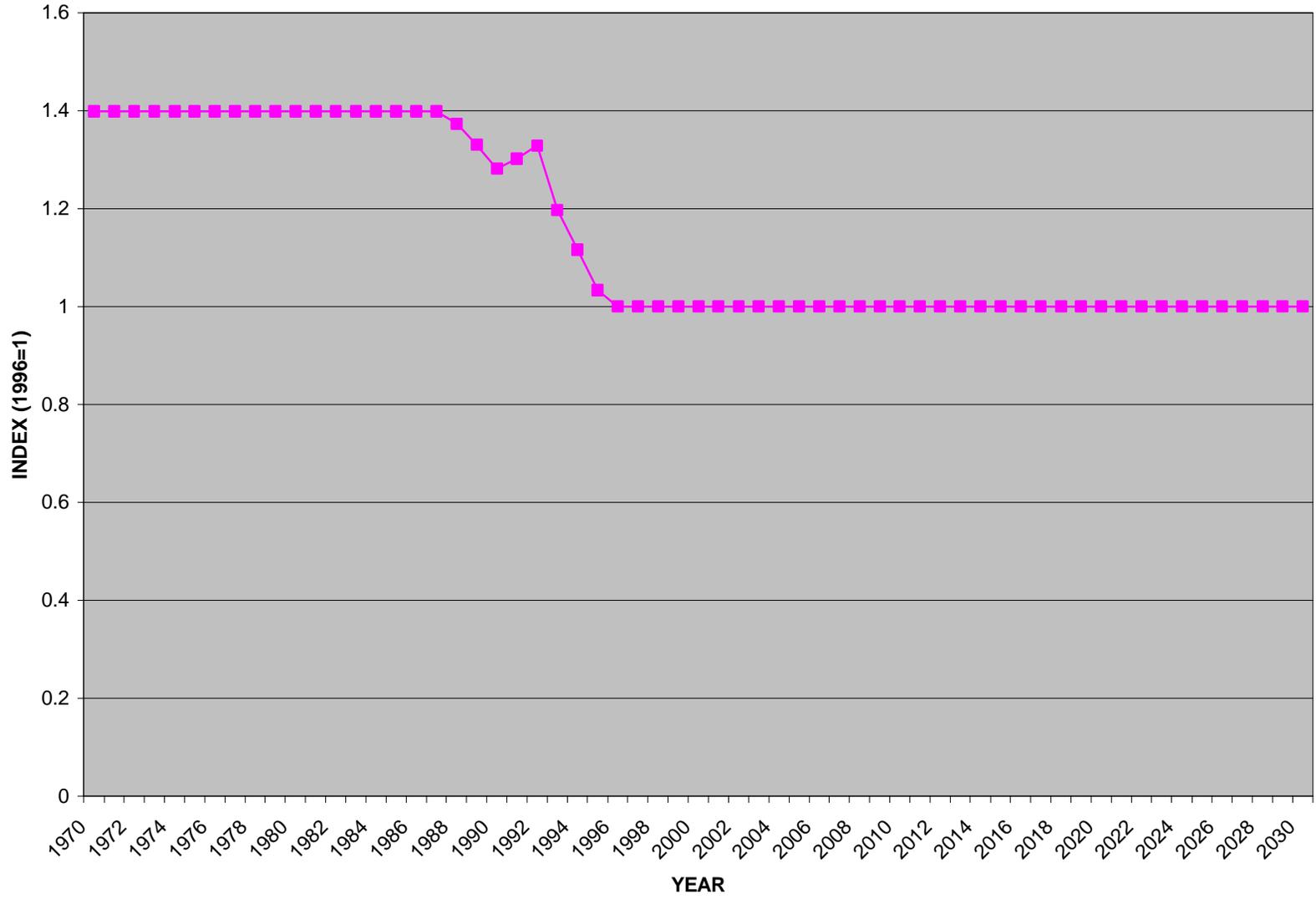


Figure IV-7. Fugitive Windblown Dust from Unpaved Roads and Associated Areas

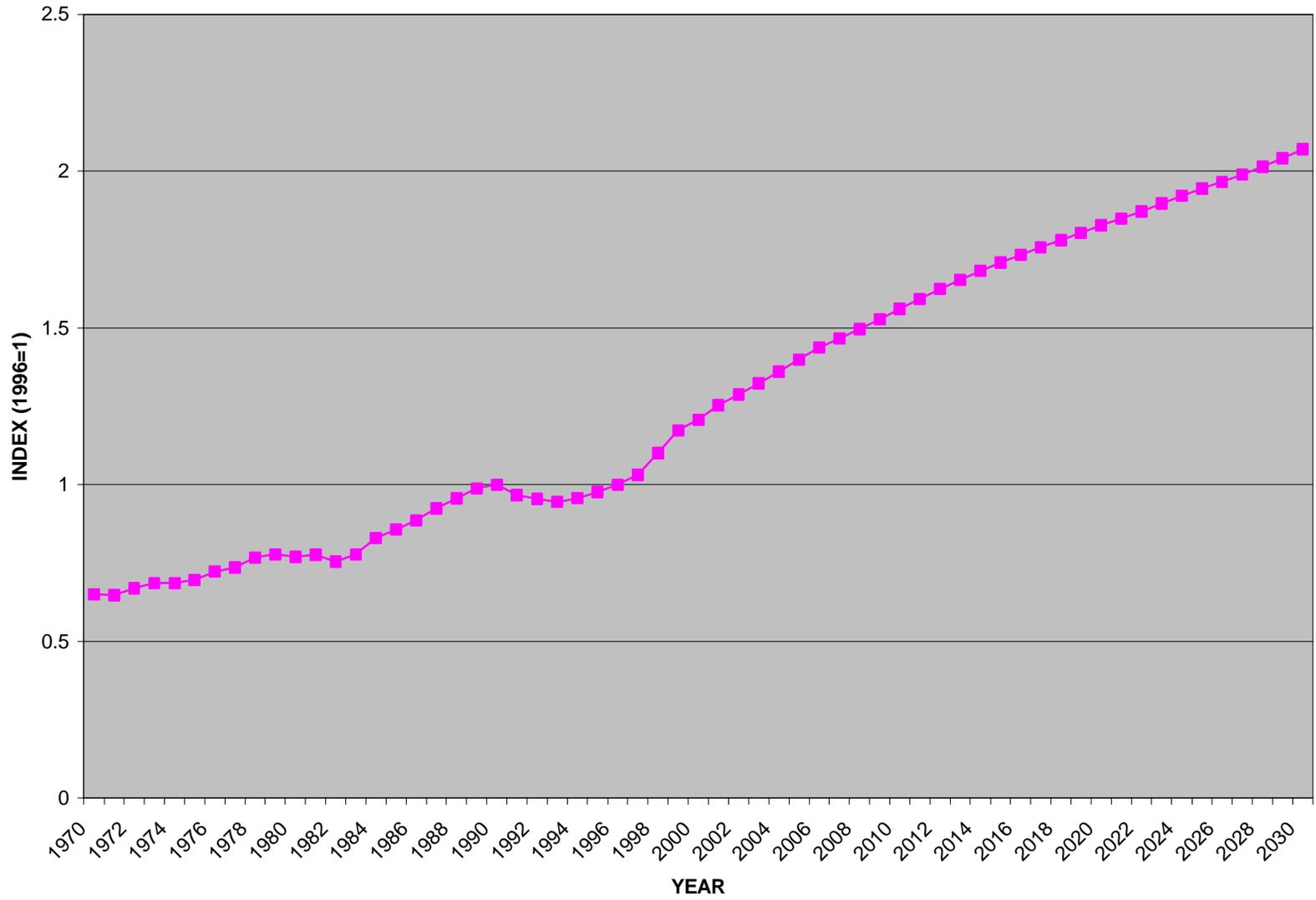


Figure IV-8. Class II and III Landfills, Municipal Solid Waste Landfills

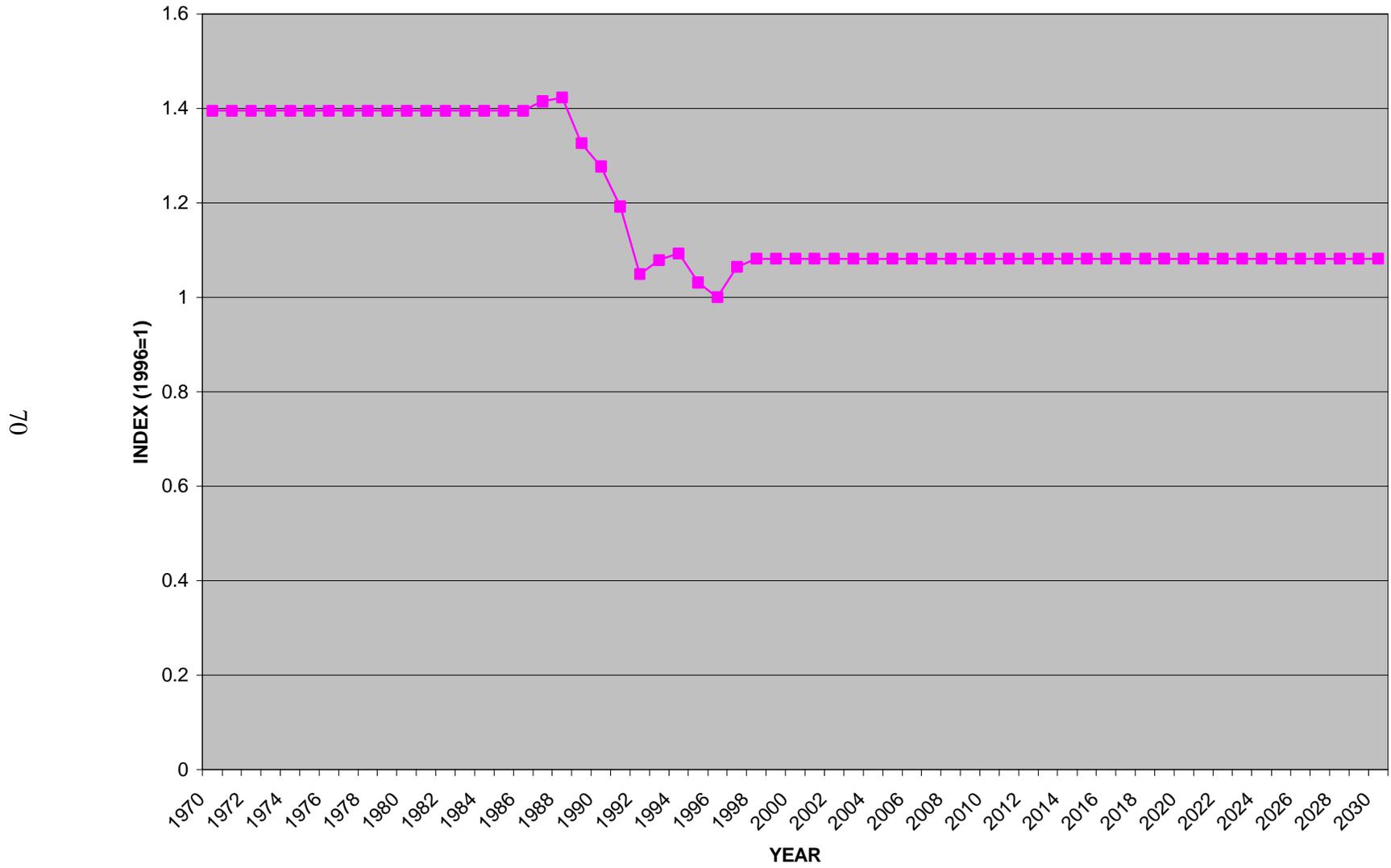


Figure IV-9. Agricultural Burning - Field Crops

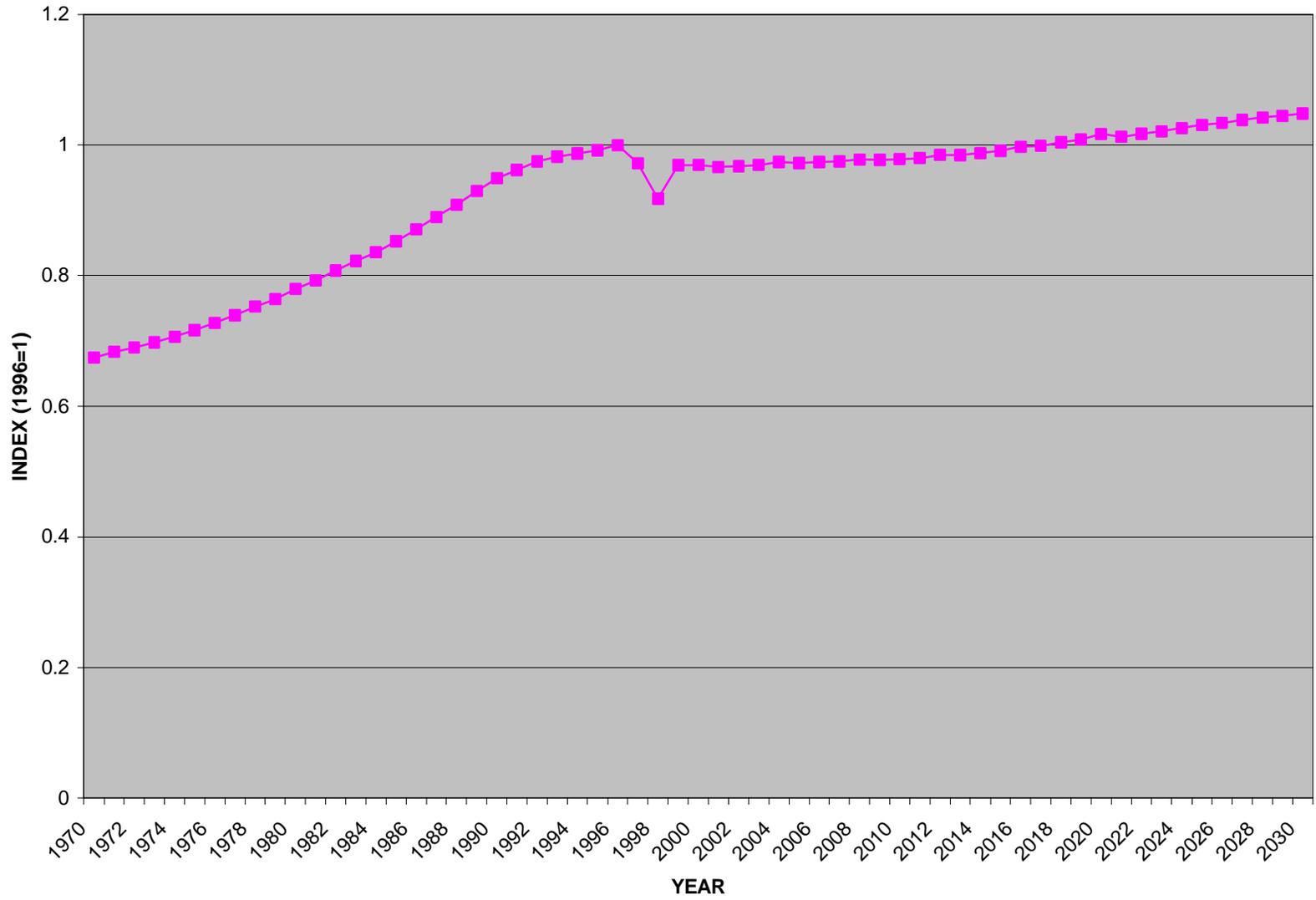


Figure IV-10. Residential Wood Combustion, Wood Stoves

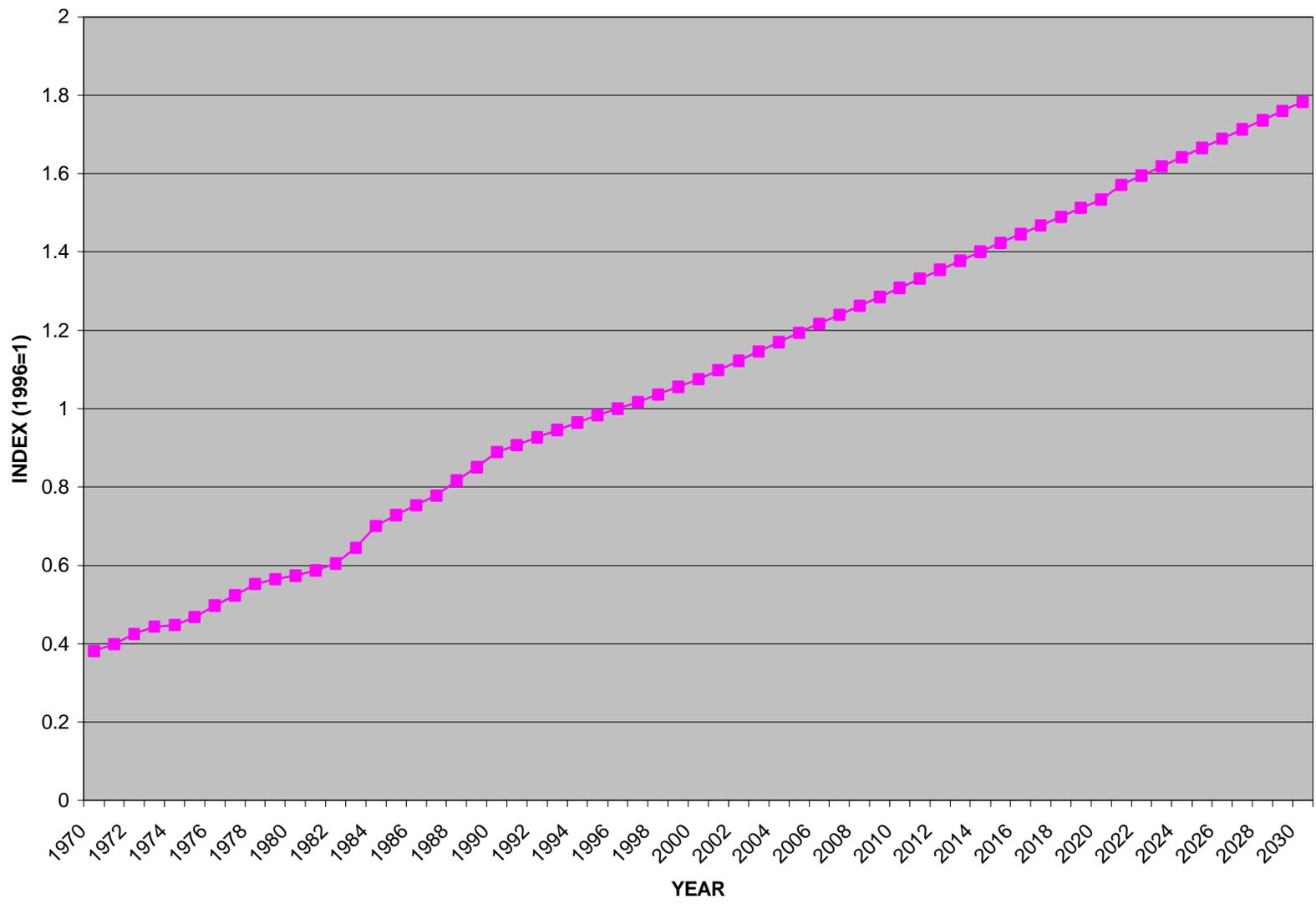


Figure IV-11. Paved Entrained Road Dust -Local Streets and -Major Streets

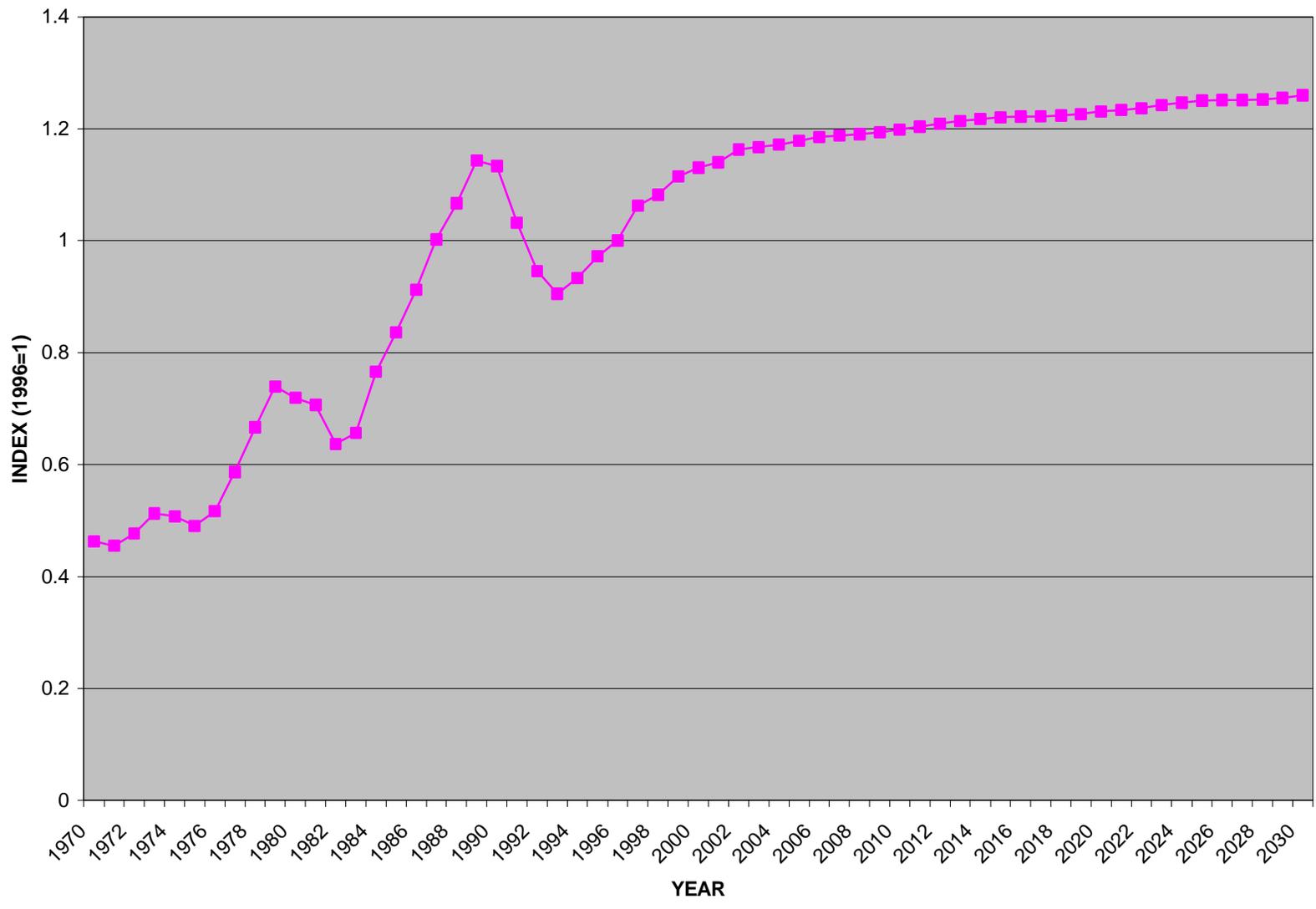


Figure IV-12. Road Construction Dust

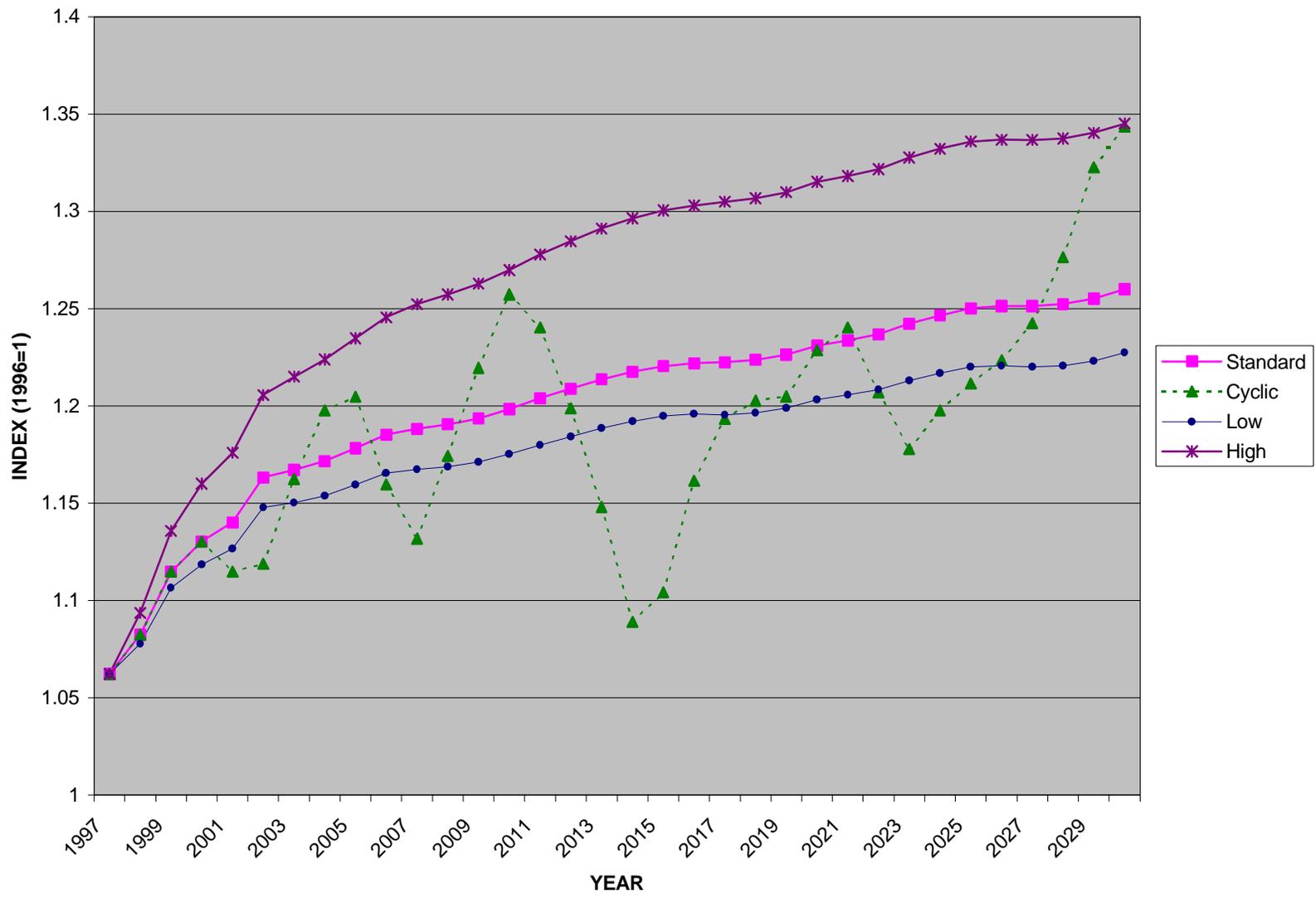


Figure IV-13. Comparison of Road Construction Dust Forecast Scenarios

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GLOSSARY OF TERMS, ABBREVIATIONS, AND SYMBOLS

AEO	Annual Energy Outlook
ARB	Air Resources Board
BEA	Bureau of Economic Analysis
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
Caltrans	California Department of Transportation
CCA	California Cattlemens Association
CDFA	California Department of Food and Agriculture
CDFFP	California Department of Forestry and Fire Protection
CEC	California Energy Commission
CES	Category of Emission Source
CGE	Computable General Equilibrium
CIRB	Construction Industry Research Board
CSN	California-Southern Nevada
DOE	Department of Energy
DOF	Department of Finance
DO&G	Division of Oil and Gas
DPR	Department of Pesticide Regulation
EDFS	Economic and Demographic Forecasting and Simulation
EFS	Emission Forecasting System
EGAS	Economic Growth Analysis System
EIA	Energy Information Administration
EIC	emission inventory code
EIIP	Emission Inventory Improvement Program
EPA	U.S. Environmental Protection Agency
GAP	Growth Activity Profile
I.C.	internal combustion
IWMB	Integrated Waste Management Board
LDT	light-duty truck
MDT	medium-duty truck
NBER-CES	National Bureau of Economic Research-Center for Economic Studies
PAD	parameter assignment data
PGE	Pacific Gas and Electric
PM ₁₀	particulate matter with an aerodynamic diameter of 10 micrometers or less
REMI	Regional Economic Models, Inc.
ROG	reactive organic gas
RSQE	Research Seminar in Quantitative Economics
SCC	source classification code

GLOSSARY OF TERMS, ABBREVIATIONS, AND SYMBOLS (continued)

SCG	Southern California Gas
SDGE	San Diego Gas and Electric
SIC	standard industrial classification
U.S.	United States
VMT	vehicle miles traveled
WEQ	wind erosion equation
WSCC	Western Systems Coordinating Council

TABLES REFERENCED IN REPORT

The following presents the tables referenced in the body of this report. The table numbers, which are listed below, identify the section and order in which they appear in the report.

<u>Section/Table No.</u>	<u>Description</u>
II-1.	Unique List of Non-Fuel Combustion Point Source Growth Parameters
II-2.	Non-Fuel Combustion Point Source Growth Parameter Assignments
II-3.	Unique List of Fuel Projections Categories Incorporated Into REMI/AEO Growth Parameters
II-4.	Fuel Combustion Point Source Growth Parameter Assignments
II-5.	Non-Mobile Area Source Growth Parameter Assignments
III-1.	Details on Regression-Based Approaches
IV-1.	Number of Growth Parameters Included in Each Forecast Scenario
IV-2.	List of Growth Parameters Only Included in Best Estimate Forecast Scenario

Table II-1. Unique List of Non-Fuel Combustion Point Source Growth Parameters

GROWTH_PARAMETER	DESCRIPTION	SIC CODES
SIC_01&02out	Farm output	01, 02
SIC_7-out	Agricultural services output	07, 09
SIC_8&9-out	Forestry, fishing, hunting, & trapping output	08, 09
SIC_10-out	Metal mining output	10
SIC_12-out	Coal mining output	12
SIC_13-out	Oil and gas production output	13
SIC_131&2out	Crude petrol, nat. gas & gas liquids output	131, 132
SIC_138_out	Oil and gas field services output	138
SIC_14-out	Nonmetallic minerals, except fuels output	14
SIC_15-17out	Construction output	15-17
SIC_201-out	Meat products output	201
SIC_202-out	Dairy products output	202
SIC_203-out	Preserved fruits and vegetables output	203
SIC_20-39out	Manufacturing output	20-39
SIC_204&7out	Grain mill products and fats and oils output	204, 207
SIC_205-out	Bakery products output	205
SIC_206-out	Sugar and confectionery products output	206
SIC_208-out	Beverages output	208
SIC_209-out	Misc. food & kindred products output	209
SIC_21-out	Tobacco manufacturing output	21
SIC_221+-out	Weaving, finishing, yarn, & thread mills output	221-224, 226, 228
SIC_225-out	Knitting mills output	225
SIC_227-out	Carpets and rugs output	227
SIC_229-out	Miscellaneous textile goods output	229
SIC_231+-out	Apparel output	231-238
SIC_239-out	Misc. fabricated textile products output	239
SIC_241-out	Logging output	241
SIC_242-out	Sawmills and planing mills output	242
SIC_243-out	Millwork, plywood, & struct members output	243
SIC_244&9out	Wood containers & misc. wood prods output	244, 249
SIC_245-out	Wood buildings and mobile homes output	245
SIC_25-out	Furniture and fixtures output	25
SIC_251-out	Household furniture output	251
SIC_252+-out	Office and misc. furniture and fixtures output	252, 253, 259
SIC_254-out	Partitions and fixtures output	254
SIC_26-out	Paper and allied products output	26
SIC_261-3out	Pulp, paper, and paperboard mills output	261-263
SIC_265-out	Paperboard containers and boxes output	265
SIC_267-out	Converted paper prods exc. containers output	267
SIC_27-out	Printing and publishing output	27
SIC_271-out	Newspapers output	271
SIC_272-out	Periodicals output	272
SIC_273-out	Books output	273
SIC_274-out	Miscellaneous publishing output	274
SIC_275&6out	Commercial printing and business forms output	275, 276
SIC_277-out	Greeting cards output	277
SIC_278-out	Blankbooks and bookbinding output	278
SIC_279-out	Service industries for the printing trade outpu	279
SIC_281&6out	Industrial chemicals output	281, 286
SIC_282-out	Plastics materials and synthetics output	282
SIC_283-out	Drugs output	283

Table II-1 (continued)

GROWTH_PARAMETER	DESCRIPTION	SIC CODES
SIC_284-out	Soap, cleaners, and toilet goods output	284
SIC_285-out	Paints and allied products output	285
SIC_287-out	Agricultural chemicals output	287
SIC_289-out	Miscellaneous chemical products output	289
SIC_291-out	Petroleum refining output	291
SIC_295&9out	Misc. petroleum and coal products output	295, 299
SIC_30-out	Rubber output	30
SIC_301-out	Tires and inner tubes output	301
SIC_302+-out	Rubber prods & plastic hose & footwear output	302, 305, 306
SIC_308-out	Miscellaneous plastics products, nec output	308
SIC_311+-out	Luggage, handbags, & leath prods, nec output	311, 315-317, 319
SIC_313&4out	Footwear, except rubber and plastic output	313, 314
SIC_321+-out	Glass and glass products output	321-323
SIC_324-out	Hydraulic cement output	324
SIC_325+-out	Stone, clay, & misc. mineral products output	325, 326, 328, 329
SIC_327-out	Concrete, gypsum, & plaster products output	327
SIC_331-out	Blast furnaces & basic steel products output	331
SIC_332-out	Iron and steel foundries output	332
SIC_333-out	Primary nonferrous smelting & refining output	333
SIC_334&9out	Secdry nonferr & misc primary metal output	334, 339
SIC_335-out	Nonferrous rolling and drawing output	335
SIC_336-out	Nonferrous foundries output	336
SIC_341-out	Metal cans and shipping containers output	341
SIC_342-out	Cutlery, hand tools, and hardware output	342
SIC_343-out	Plumbing & nonelectric heating equip output	343
SIC_344-out	Fabricated structural metal products output	344
SIC_345-out	Screw machine prods, bolts, rivets, etc output	345
SIC_346-out	Metal forgings and stampings output	346
SIC_347-out	Metal coating, engraving, & allied serv output	347
SIC_348-out	Ordnance and ammunition output	348
SIC_349-out	Misc. fabricated metal products output	349
SIC_351-out	Engines and turbines output	351
SIC_352-out	Farm & garden machinery & equip output	352
SIC_353-out	Construction & related machinery output	353
SIC_354-out	Metalworking machinery & equipment output	354
SIC_355-out	Special industry machinery output	355
SIC_356-out	Genl industrial machinery & equip output	356
SIC_357-out	Computer and office equipment output	357
SIC_358-out	Refrig. & service industry machinery output	358
SIC_359-out	Industrial machinery, nec output	359
SIC_36-out	Electronic & other electric equipment output	36
SIC_361-out	Electric distribution equipment output	361
SIC_362-out	Electrical industrial apparatus output	362
SIC_363-out	Household appliances output	363
SIC_364-out	Electric lighting & wiring equipment output	364
SIC_365-out	Household audio & video equipment output	365
SIC_366-out	Communications equipment output	366
SIC_367-out	Electronic components & accessories output	367
SIC_369-out	Miscellaneous electrical equipment output	369
SIC_371-out	Motor vehicles output	371
SIC_372&6out	Aerospace output	372, 376
SIC_373-out	Ship and boat building and repairing output	373

Table II-1 (continued)

GROWTH_PARAMETER	DESCRIPTION	SIC CODES
SIC_374-out	Railroad equipment output	374
SIC_375&9out	Misc. transportation equipment output	375, 379
SIC_38-out	Instruments output	38
SIC_381-out	Search and navigation equipment output	381
SIC_382-out	Measuring and controlling devices output	382
SIC_384-out	Medical equip, instruments & supplies output	384
SIC_385-out	Ophthalmic goods output	385
SIC_386-out	Photographic equipment & supplies output	386
SIC_387-out	Watches, clocks, and parts output	387
SIC_39-out	Miscellaneous manufacturing output	39
SIC_391-out	Jewelry, silverware, and plated ware output	391
SIC_393+-out	Manufactured products, nec output	393, 395, 396, 399
SIC_394-out	Toys and sporting goods output	394
SIC_40-out	Railroad output	40
SIC_41-out	Local & interurban passenger transit output	41
SIC_42-out	Trucking and warehousing output	42
POSTAL	Postal clerks and mail carriers (number)	43
SIC_44-out	Water transportation output	44
SIC_45-out	Air transportation output	45
SIC_46-out	Pipelines, except natural gas output	46
SIC_472-out	Passenger transportation arrangement output	472
SIC_473+-out	Miscellaneous transportation services output	473, 474, 478
SIC_48-out	Communications output	48
SIC_491&3out	Electric utilities output	491, 493
TOTAL_UTIL	Total utility fuel use from CEC, EIA, & regress-SIC_491&3out	491, 493
SIC_492&3out	Gas utilities output	492, 493
SIC_494+-out	Water and sanitation output	494-497, 493
SIC_50&1-out	Wholesale trade output	50, 51
SIC_52+-out	Rest of retail output	52-57, 59
SIC_58-out	Eating and drinking output	58
SIC_60-out	Depository institutions output	60
SIC_61&7-out	Nondepository; holding & invest offices output	61, 67
SIC_62-out	Security and commodity brokers output	62
SIC_63-out	Insurance carriers output	63
SIC_64-out	Insurance agents, brokers, & service output	64
SIC_65-out	Real estate output	65
SIC_70-out	Hotels and other lodging places output	70
SIC_72&6out	Personal and miscellaneous services output	72, 76
SIC_721&5out	Laundry, cleaning, and shoe repair output	721, 725
SIC_722&9out	Personal services, nec output	722, 729
SIC_723&4out	Beauty and barber shops output	723, 724
SIC_726-out	Funeral service and crematories output	726
SIC_73-out	Business services output	73
SIC_731-out	Advertising output	731
SIC_732+-out	Miscellaneous business services output	732, 733, 738
SIC_734-out	Services to buildings output	734
SIC_735-out	Misc. equipment rental & leasing output	735
SIC_736-out	Personnel supply services output	736
SIC_737-out	Computer & data processing services output	737
SIC_751-out	Automotive rentals, without drivers output	751
SIC_752-4out	Automobile parking, repair, & services output	752-754

Table II-1 (continued)

GROWTH_PARAMETER	DESCRIPTION	SIC CODES
SIC_762-out	Electrical repair shops output	762
SIC_763-4out	Watch, jewelry, & furniture repair output	763, 764
SIC_769-out	Miscellaneous repair services output	769
SIC_781-3out	Motion pictures output	781-783
SIC_784-out	Video tape rental output	784
SIC_791&9out	Amusement & recreation services, nec output	791, 799
SIC_792-out	Producers, orchestras, & entertainers output	792
SIC_793-out	Bowling centers output	793
SIC_794-out	Commercial sports output	794
SIC_801-4out	Offices of health practitioners output	801-804
SIC_805-out	Nursing and personal care facilities output	805
SIC_806-out	Hospitals output	806
SIC_807-9out	Health services, nec output	807-809
SIC_81-out	Legal services output	81
SIC_81+-out	Legal, eng. & mgmnt, and misc. serv output	81, 87, 89
SIC_82-out	Educational services output	82
SIC_832&9out	Individual & misc. social services output	832, 839
SIC_833-out	Job training and related services output	833
SIC_835-out	Child day care services output	835
SIC_836-out	Residential care output	836
SIC_84-out	Museums, botanical, zoological gardens output	84
SIC_86-out	Membership organizations output	86
SIC_871-out	Engineering & architectural services output	871
SIC_872+-out	Accounting, auditing, & other services output	872, 89
SIC_873-out	Research and testing services output	873
SIC_874-out	Management and public relations output	874
SIC_88-out	Private household output	88
SIC_91-97out	Government output	91-97
FED_MIL-out	Federal military output	945, 971
FED_CIVL-out	Federal civilian output	966, 972
TOTAL-out	Total output (bil 92\$)	999

Table II-2. Non-Fuel Combustion Point Source Growth Parameter Assignments

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_20-39out	2	INVALID SIC	County data: Manufacturing output
SIC_01&02out	111	Wheat	County data: Farm output
SIC_01&02out	112	Rice	County data: Farm output
SIC_01&02out	115	Corn	County data: Farm output
SIC_01&02out	116	Soybeans	County data: Farm output
SIC_01&02out	119	Cash grains, nec	County data: Farm output
SIC_01&02out	131	Cotton	County data: Farm output
SIC_01&02out	132	Tobacco	County data: Farm output
SIC_01&02out	133	Sugarcane and sugar beets	County data: Farm output
SIC_01&02out	134	Irish potatoes	County data: Farm output
SIC_01&02out	139	Field crops, except cash grains, nec	County data: Farm output
SIC_01&02out	161	Vegetables and melons	County data: Farm output
SIC_01&02out	171	Berry crops	County data: Farm output
SIC_01&02out	172	Grapes	County data: Farm output
SIC_01&02out	173	Tree nuts	County data: Farm output
SIC_01&02out	174	Citrus fruits	County data: Farm output
SIC_01&02out	175	Deciduous tree fruits	County data: Farm output
SIC_01&02out	179	Fruits and tree nuts, nec	County data: Farm output
SIC_01&02out	181	Ornamental nursery products	County data: Farm output
SIC_01&02out	182	Food crops grown under cover	County data: Farm output
SIC_01&02out	191	General farms, primarily crop	County data: Farm output
SIC_01&02out	211	Beef cattle feedlots	County data: Farm output
SIC_01&02out	212	Beef cattle, except feedlots	County data: Farm output
SIC_01&02out	213	Hogs	County data: Farm output
SIC_01&02out	214	Sheep and goats	County data: Farm output
SIC_01&02out	219	General livestock, nec	County data: Farm output
SIC_01&02out	241	Dairy farms	County data: Farm output
SIC_01&02out	251	Broiler, fryer, and roaster chickens	County data: Farm output
SIC_01&02out	252	Chicken eggs	County data: Farm output
SIC_01&02out	253	Turkeys and turkey eggs	County data: Farm output
SIC_01&02out	254	Poultry hatcheries	County data: Farm output
SIC_01&02out	259	Poultry and eggs, nec	County data: Farm output
SIC_01&02out	271	Fur-bearing animals and rabbits	County data: Farm output
SIC_01&02out	272	Horses and other equines	County data: Farm output
SIC_01&02out	273	Animal aquaculture	County data: Farm output
SIC_01&02out	279	Animal specialties, nec	County data: Farm output
SIC_01&02out	291	General farms, primarily animal	County data: Farm output
SIC_7-out	711	Soil preparation services	County data: Agricultural services output
SIC_7-out	721	Crop planting and protecting	County data: Agricultural services output
SIC_7-out	722	Crop harvesting	County data: Agricultural services output
SIC_7-out	723	Crop preparation services for market	County data: Agricultural services output
SIC_7-out	724	Cotton ginning	County data: Agricultural services output
SIC_7-out	741	Veterinary services for livestock	County data: Agricultural services output
SIC_7-out	742	Veterinary services, specialties	County data: Agricultural services output
SIC_7-out	751	Livestock services, exc. veterinary	County data: Agricultural services output
SIC_7-out	752	Animal specialty services	County data: Agricultural services output
SIC_7-out	761	Farm labor contractors	County data: Agricultural services output
SIC_7-out	762	Farm management services	County data: Agricultural services output
SIC_7-out	781	Landscape counseling and planning	County data: Agricultural services output
SIC_7-out	782	Lawn and garden services	County data: Agricultural services output
SIC_7-out	783	Ornamental shrub and tree services	County data: Agricultural services output
SIC_8&9-out	811	Timber tracts	County data: Forestry, fishing, hunting, & trapping output
SIC_8&9-out	831	Forest products	County data: Forestry, fishing, hunting, & trapping output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_8&9-out	851	Forestry services	County data: Forestry, fishing, hunting, & trapping output
SIC_8&9-out	912	Finfish	County data: Forestry, fishing, hunting, & trapping output
SIC_8&9-out	913	Shellfish	County data: Forestry, fishing, hunting, & trapping output
SIC_8&9-out	919	Miscellaneous marine products	County data: Forestry, fishing, hunting, & trapping output
SIC_8&9-out	921	Fish hatcheries and preserves	County data: Forestry, fishing, hunting, & trapping output
SIC_8&9-out	971	Hunting, trapping, game propagation	County data: Forestry, fishing, hunting, & trapping output
SIC_10-out	1011	Iron ores	County data: Metal mining output
SIC_10-out	1021	Copper ores	County data: Metal mining output
SIC_10-out	1031	Lead and zinc ores	County data: Metal mining output
SIC_10-out	1041	Gold ores	County data: Metal mining output
SIC_10-out	1044	Silver ores	County data: Metal mining output
SIC_10-out	1061	Ferroalloy ores, except vanadium	County data: Metal mining output
SIC_10-out	1081	Metal mining services	County data: Metal mining output
SIC_10-out	1094	Uranium-radium-vanadium ores	County data: Metal mining output
SIC_10-out	1099	Metal ores, nec	County data: Metal mining output
SIC_12-out	1182	INVALID SIC	County data: Coal mining output
SIC_12-out	1221	Bituminous coal and lignite - surface	County data: Coal mining output
SIC_12-out	1222	Bituminous coal - underground	County data: Coal mining output
SIC_12-out	1231	Anthracite mining	County data: Coal mining output
SIC_12-out	1241	Coal mining services	County data: Coal mining output
SIC_13-out	1300	Oil and Gas Extraction	County data: Oil and gas production output
SIC_131&2out	1311	Crude petroleum and natural gas	County data: Crude petrol, nat. gas & gas liquids output
SIC_131&2out	1321	Natural gas liquids	County data: Crude petrol, nat. gas & gas liquids output
SIC_138_out	1381	Drilling oil and gas wells	County data: Oil and gas field services output
SIC_138_out	1382	Oil and gas exploration services	County data: Oil and gas field services output
SIC_138_out	1389	Oil and gas field services, nec	County data: Oil and gas field services output
SIC_14-out	1411	Dimension stone	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1422	Crushed and broken limestone	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1423	Crushed and broken granite	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1429	Crushed and broken stone, nec	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1442	Construction sand and gravel	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1446	Industrial sand	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1453	OUTDATED (1977) SIC	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1455	Kaolin and ball clay	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1459	Clay and related minerals, nec	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1474	Potash, soda, and borate minerals	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1475	Phosphate rock	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1479	Chemical and fertilizer mining, nec	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1481	Nonmetallic minerals services	County data: Nonmetallic minerals, except fuels output
SIC_14-out	1499	Miscellaneous Nonmetallic Minerals	County data: Nonmetallic minerals, except fuels output
SIC_15-17out	1521	Single-family housing construction	County data: Construction output
SIC_15-17out	1522	Residential construction, nec	County data: Construction output
SIC_15-17out	1531	Operative builders	County data: Construction output
SIC_15-17out	1541	Industrial buildings and warehouses	County data: Construction output
SIC_15-17out	1542	Nonresidential construction, nec	County data: Construction output
SIC_15-17out	1611	Highway and street construction	County data: Construction output
SIC_15-17out	1622	Bridge, tunnel, & Elevated highway	County data: Construction output
SIC_15-17out	1623	Water, sewer, and utility lines	County data: Construction output
SIC_15-17out	1629	Heavy construction, nec	County data: Construction output
SIC_15-17out	1700	Special Trade Contractors	County data: Construction output
SIC_15-17out	1711	Plumbing, heating, air-conditioning	County data: Construction output
SIC_15-17out	1721	Painting and paper hanging	County data: Construction output
SIC_15-17out	1731	Electrical work	County data: Construction output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_15-17out	1741	Masonry and other stonework	County data: Construction output
SIC_15-17out	1742	Plastering, drywall, and insulation	County data: Construction output
SIC_15-17out	1743	Terrazzo, tile, marble, mosaic work	County data: Construction output
SIC_15-17out	1751	Carpentry work	County data: Construction output
SIC_15-17out	1752	Floor laying and floor work, nec	County data: Construction output
SIC_15-17out	1761	Roofing, siding, and sheet metal work	County data: Construction output
SIC_15-17out	1771	Concrete work	County data: Construction output
SIC_15-17out	1781	Water well drilling	County data: Construction output
SIC_15-17out	1791	Structural steel erection	County data: Construction output
SIC_15-17out	1793	Glass and glazing work	County data: Construction output
SIC_15-17out	1794	Excavation work	County data: Construction output
SIC_15-17out	1795	Wrecking and demolition work	County data: Construction output
SIC_15-17out	1796	Installing building equipment, nec	County data: Construction output
SIC_15-17out	1799	Special trade contractors, nec	County data: Construction output
SIC_201-out	2011	Meat packing plants	County data: Meat products output
SIC_201-out	2013	Sausages and other prepared meats	County data: Meat products output
SIC_201-out	2015	Poultry slaughtering and processing	County data: Meat products output
SIC_202-out	2021	Creamery butter	County data: Dairy products output
SIC_202-out	2022	Cheese, natural and processed	County data: Dairy products output
SIC_202-out	2023	Dry, condensed, evaporated products	County data: Dairy products output
SIC_202-out	2024	Ice cream and frozen desserts	County data: Dairy products output
SIC_202-out	2026	Fluid milk	County data: Dairy products output
SIC_203-out	2032	Canned specialties	County data: Preserved fruits and vegetables output
SIC_203-out	2033	Canned fruits and vegetables	County data: Preserved fruits and vegetables output
SIC_203-out	2034	Dehydrated fruits, vegetables, soups	County data: Preserved fruits and vegetables output
SIC_203-out	2035	Pickles, sauces, and salad dressings	County data: Preserved fruits and vegetables output
SIC_203-out	2037	Frozen fruits and vegetables	County data: Preserved fruits and vegetables output
SIC_203-out	2038	Frozen specialties, nec	County data: Preserved fruits and vegetables output
SIC_204&7out	2041	Flour and other grain mill products	County data: Grain mill products and fats and oils output
SIC_204&7out	2043	Cereal breakfast foods	County data: Grain mill products and fats and oils output
SIC_204&7out	2044	Rice milling	County data: Grain mill products and fats and oils output
SIC_204&7out	2045	Prepared flour mixes and doughs	County data: Grain mill products and fats and oils output
SIC_204&7out	2046	Wet corn milling	County data: Grain mill products and fats and oils output
SIC_204&7out	2047	Dog and cat food	County data: Grain mill products and fats and oils output
SIC_204&7out	2048	Prepared feeds, nec	County data: Grain mill products and fats and oils output
SIC_205-out	2051	Bread, cake, and related products	County data: Bakery products output
SIC_205-out	2052	Cookies and crackers	County data: Bakery products output
SIC_205-out	2053	Frozen bakery products, except bread	County data: Bakery products output
SIC_206-out	2061	Raw cane sugar	County data: Sugar and confectionery products output
SIC_206-out	2062	Cane sugar refining	County data: Sugar and confectionery products output
SIC_206-out	2063	Beet sugar	County data: Sugar and confectionery products output
SIC_206-out	2064	Candy & other confectionery products	County data: Sugar and confectionery products output
SIC_206-out	2065	OUTDATED (1977) SIC	County data: Sugar and confectionery products output
SIC_206-out	2066	Chocolate and cocoa products	County data: Sugar and confectionery products output
SIC_206-out	2067	Chewing gum	County data: Sugar and confectionery products output
SIC_206-out	2068	Salted and roasted nuts and seeds	County data: Sugar and confectionery products output
SIC_204&7out	2074	Cottonseed oil mills	County data: Grain mill products and fats and oils output
SIC_204&7out	2075	Soybean oil mills	County data: Grain mill products and fats and oils output
SIC_204&7out	2076	Vegetable oil mills, nec	County data: Grain mill products and fats and oils output
SIC_204&7out	2077	Animal and marine fats and oils	County data: Grain mill products and fats and oils output
SIC_204&7out	2079	Edible fats and oils, nec	County data: Grain mill products and fats and oils output
SIC_208-out	2082	Malt beverages	County data: Beverages output
SIC_208-out	2083	Malt	County data: Beverages output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_208-out	2084	Wines, brandy, and brandy spirits	County data: Beverages output
SIC_208-out	2085	Distilled and blended liquors	County data: Beverages output
SIC_208-out	2086	Bottled and canned soft drinks	County data: Beverages output
SIC_208-out	2087	Flavoring extracts and syrups, nec	County data: Beverages output
SIC_209-out	2091	Canned and cured fish and seafoods	County data: Misc. food & kindred products output
SIC_209-out	2092	Fresh or frozen prepared fish	County data: Misc. food & kindred products output
SIC_209-out	2095	Roasted coffee	County data: Misc. food & kindred products output
SIC_209-out	2096	Potato chips and similar snacks	County data: Misc. food & kindred products output
SIC_209-out	2097	Manufactured ice	County data: Misc. food & kindred products output
SIC_209-out	2098	Macaroni and spaghetti	County data: Misc. food & kindred products output
SIC_209-out	2099	Food preparations, nec	County data: Misc. food & kindred products output
SIC_21-out	2111	Cigarettes	County data: Tobacco manufacturing output
SIC_21-out	2121	Cigars	County data: Tobacco manufacturing output
SIC_21-out	2131	Chewing and smoking tobacco	County data: Tobacco manufacturing output
SIC_21-out	2141	Tobacco stemming and redrying	County data: Tobacco manufacturing output
SIC_221+-out	2211	Broadwoven fabric mills, cotton	County data: Weaving, finishing, yarn, & thread mills output
SIC_221+-out	2221	Broadwoven fabric mills, manmade	County data: Weaving, finishing, yarn, & thread mills output
SIC_221+-out	2231	Broadwoven fabric mills, wool	County data: Weaving, finishing, yarn, & thread mills output
SIC_221+-out	2241	Narrow fabric mills	County data: Weaving, finishing, yarn, & thread mills output
SIC_225-out	2251	Women's hosiery, except socks	County data: Knitting mills output
SIC_225-out	2252	Hosiery, nec	County data: Knitting mills output
SIC_225-out	2253	Knit outerwear mills	County data: Knitting mills output
SIC_225-out	2254	Knit underwear mills	County data: Knitting mills output
SIC_225-out	2257	Weft knit fabric mills	County data: Knitting mills output
SIC_225-out	2258	Lace & warp knit fabric mills	County data: Knitting mills output
SIC_225-out	2259	Knitting mills, nec	County data: Knitting mills output
SIC_221+-out	2261	Finishing plants, cotton	County data: Weaving, finishing, yarn, & thread mills output
SIC_221+-out	2262	Finishing Plants, manmade	County data: Weaving, finishing, yarn, & thread mills output
SIC_221+-out	2269	Finishing plants, nec	County data: Weaving, finishing, yarn, & thread mills output
SIC_227-out	2273	Carpets and rugs	County data: Carpets and rugs output
SIC_221+-out	2281	Yarn spinning mills	County data: Weaving, finishing, yarn, & thread mills output
SIC_221+-out	2282	Throwing and winding mills	County data: Weaving, finishing, yarn, & thread mills output
SIC_221+-out	2284	Thread mills	County data: Weaving, finishing, yarn, & thread mills output
SIC_229-out	2295	Coated fabrics, not rubberized	County data: Miscellaneous textile goods output
SIC_229-out	2296	Tire cord and fabrics	County data: Miscellaneous textile goods output
SIC_229-out	2297	Nonwoven fabrics	County data: Miscellaneous textile goods output
SIC_229-out	2298	Cordage and twine	County data: Miscellaneous textile goods output
SIC_229-out	2299	Textile goods, nec	County data: Miscellaneous textile goods output
SIC_231+-out	2311	Men's and boys' suits and coats	County data: Apparel output
SIC_231+-out	2321	Men's and boys' shirts	County data: Apparel output
SIC_231+-out	2322	Men's and boys' underwear & nightwear	County data: Apparel output
SIC_231+-out	2323	Men's and boys' neckwear	County data: Apparel output
SIC_231+-out	2325	Men's and boys' trousers and slacks	County data: Apparel output
SIC_231+-out	2326	Men's and boys' work clothing	County data: Apparel output
SIC_231+-out	2329	Men's and boys' clothing, nec	County data: Apparel output
SIC_231+-out	2331	Women's & misses' blouses & shirts	County data: Apparel output
SIC_231+-out	2335	Women's, juniors', & misses' dresses	County data: Apparel output
SIC_231+-out	2337	Women's and misses' suits and coats	County data: Apparel output
SIC_231+-out	2339	Women's and misses' outerwear, nec	County data: Apparel output
SIC_231+-out	2341	Women's and children's underwear	County data: Apparel output
SIC_231+-out	2342	Bras, girdles, and allied garments	County data: Apparel output
SIC_231+-out	2353	Hats, caps, and millinery	County data: Apparel output
SIC_231+-out	2361	Girls' and children's dresses, blouses	County data: Apparel output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_231+-out	2369	Girls' and children's outerwear, nec	County data: Apparel output
SIC_231+-out	2371	Fur goods	County data: Apparel output
SIC_231+-out	2373	INVALID SIC	County data: Apparel output
SIC_231+-out	2381	Fabric dress and work gloves	County data: Apparel output
SIC_231+-out	2384	Robes and dressing gowns	County data: Apparel output
SIC_231+-out	2385	Waterproof outerwear	County data: Apparel output
SIC_231+-out	2386	Leather and sheep-lined clothing	County data: Apparel output
SIC_231+-out	2387	Apparel belts	County data: Apparel output
SIC_231+-out	2389	Apparel and accessories, nec	County data: Apparel output
SIC_239-out	2391	Curtains and draperies	County data: Misc. fabricated textile products output
SIC_239-out	2392	Housefurnishing, nec	County data: Misc. fabricated textile products output
SIC_239-out	2393	Textile bags	County data: Misc. fabricated textile products output
SIC_239-out	2394	Canvas and related products	County data: Misc. fabricated textile products output
SIC_239-out	2395	Pleating and stitching	County data: Misc. fabricated textile products output
SIC_239-out	2396	Automotive and apparel trimmings	County data: Misc. fabricated textile products output
SIC_239-out	2397	Schiffli machine embroideries	County data: Misc. fabricated textile products output
SIC_239-out	2399	Fabricated textile products, nec	County data: Misc. fabricated textile products output
SIC_241-out	2411	Logging	County data: Logging output
SIC_242-out	2421	Sawmills and planing mills, general	County data: Sawmills and planing mills output
SIC_242-out	2426	Hardwood dimension & flooring mills	County data: Sawmills and planing mills output
SIC_242-out	2429	Special product sawmills, nec	County data: Sawmills and planing mills output
SIC_243-out	2431	Millwork	County data: Millwork, plywood, & struct members output
SIC_243-out	2432	INVALID SIC	County data: Millwork, plywood, & struct members output
SIC_243-out	2434	Wood kitchen cabinets	County data: Millwork, plywood, & struct members output
SIC_243-out	2435	Hardwood veneer and plywood	County data: Millwork, plywood, & struct members output
SIC_243-out	2436	Softwood veneer and plywood	County data: Millwork, plywood, & struct members output
SIC_243-out	2439	Structural wood members, nec	County data: Millwork, plywood, & struct members output
SIC_244&9out	2441	Nailed wood boxes and shook	County data: Wood containers & misc. wood prods output
SIC_244&9out	2448	Wood pallets and skids	County data: Wood containers & misc. wood prods output
SIC_244&9out	2449	Wood containers, nec	County data: Wood containers & misc. wood prods output
SIC_245-out	2451	Mobile homes	County data: Wood buildings and mobile homes output
SIC_245-out	2452	Prefabricated wood buildings	County data: Wood buildings and mobile homes output
SIC_244&9out	2490	Miscellaneous Wood Product	County data: Wood containers & misc. wood prods output
SIC_244&9out	2491	Wood preserving	County data: Wood containers & misc. wood prods output
SIC_244&9out	2492	INVALID SIC	County data: Wood containers & misc. wood prods output
SIC_244&9out	2493	Reconstituted wood products	County data: Wood containers & misc. wood prods output
SIC_244&9out	2499	Wood products, nec	County data: Wood containers & misc. wood prods output
SIC_25-out	2500	Furniture and Fixtures	County data: Furniture and fixtures output
SIC_251-out	2511	Wood household furniture	County data: Household furniture output
SIC_251-out	2512	Upholstered household furniture	County data: Household furniture output
SIC_251-out	2514	Metal household furniture	County data: Household furniture output
SIC_251-out	2515	Mattresses and bedsprings	County data: Household furniture output
SIC_251-out	2517	Wood TV and radio cabinets	County data: Household furniture output
SIC_251-out	2519	Household furniture, nec	County data: Household furniture output
SIC_252+-out	2521	Wood office furniture	County data: Office and misc. furniture and fixtures output
SIC_252+-out	2522	Office furniture, except wood	County data: Office and misc. furniture and fixtures output
SIC_252+-out	2531	Public building & related furniture	County data: Office and misc. furniture and fixtures output
SIC_252+-out	2532	INVALID SIC	County data: Office and misc. furniture and fixtures output
SIC_254-out	2541	Wood partitions and fixtures	County data: Partitions and fixtures output
SIC_254-out	2542	Partitions and fixtures, except wood	County data: Partitions and fixtures output
SIC_252+-out	2590	Miscellaneous Furniture and Fixtures	County data: Office and misc. furniture and fixtures output
SIC_252+-out	2591	Drapery hardware & blinds & shades	County data: Office and misc. furniture and fixtures output
SIC_252+-out	2599	Furniture and fixtures, nec	County data: Office and misc. furniture and fixtures output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_261-3out	2611	Pulp mills	County data: Pulp, paper, and paperboard mills output
SIC_261-3out	2621	Paper mills	County data: Pulp, paper, and paperboard mills output
SIC_261-3out	2631	Paperboard mills	County data: Pulp, paper, and paperboard mills output
SIC_26-out	2641	OUTDATED (1977) SIC	County data: Paper and allied products output
SIC_26-out	2642	OUTDATED (1977) SIC	County data: Paper and allied products output
SIC_26-out	2649	OUTDATED (1977) SIC	County data: Paper and allied products output
SIC_265-out	2652	Setup paperboard boxes	County data: Paperboard containers and boxes output
SIC_265-out	2653	Corrugated and solid fiber boxes	County data: Paperboard containers and boxes output
SIC_265-out	2655	Fiber cans, drums & similar products	County data: Paperboard containers and boxes output
SIC_265-out	2656	Sanitary food containers	County data: Paperboard containers and boxes output
SIC_265-out	2657	Folding paperboard boxes	County data: Paperboard containers and boxes output
SIC_267-out	2671	Paper coated & laminated, packaging	County data: Converted paper prods exc. containers output
SIC_267-out	2672	Paper coated and laminated, nec	County data: Converted paper prods exc. containers output
SIC_267-out	2673	Bags: plastics, laminated, & coated	County data: Converted paper prods exc. containers output
SIC_267-out	2674	Bags: uncoated paper & multiwall	County data: Converted paper prods exc. containers output
SIC_267-out	2675	Die-cut paper and board	County data: Converted paper prods exc. containers output
SIC_267-out	2676	Sanitary paper products	County data: Converted paper prods exc. containers output
SIC_267-out	2677	Envelopes	County data: Converted paper prods exc. containers output
SIC_267-out	2678	Stationery products	County data: Converted paper prods exc. containers output
SIC_267-out	2679	Converted paper products, nec	County data: Converted paper prods exc. containers output
SIC_27-out	2700	Furniture and Fixtures	County data: Printing and publishing output
SIC_271-out	2711	Newspapers	County data: Newspapers output
SIC_272-out	2720	Periodicals	County data: Periodicals output
SIC_272-out	2721	Periodicals	County data: Periodicals output
SIC_273-out	2731	Book publishing	County data: Books output
SIC_273-out	2732	Book printing	County data: Books output
SIC_274-out	2741	Miscellaneous publishing	County data: Miscellaneous publishing output
SIC_275&6out	2750	Commercial Printing	County data: Commercial printing and business forms output
SIC_275&6out	2751	OUTDATED (1977) SIC	County data: Commercial printing and business forms output
SIC_275&6out	2752	Commercial printing, lithographic	County data: Commercial printing and business forms output
SIC_275&6out	2754	Commercial printing, gravure	County data: Commercial printing and business forms output
SIC_275&6out	2759	Commercial printing, nec	County data: Commercial printing and business forms output
SIC_275&6out	2761	Manifold business forms	County data: Commercial printing and business forms output
SIC_277-out	2771	Greeting cards	County data: Greeting cards output
SIC_278-out	2782	Blankbooks and loose-leaf binders	County data: Blankbooks and bookbinding output
SIC_278-out	2789	Bookbinding and related work	County data: Blankbooks and bookbinding output
SIC_279-out	2791	Typesetting	County data: Service industries for the printing trade outpu
SIC_279-out	2796	Platemaking services	County data: Service industries for the printing trade outpu
SIC_281&6out	2812	Alkalies and chlorine	County data: Industrial chemicals output
SIC_281&6out	2813	Industrial gases	County data: Industrial chemicals output
SIC_281&6out	2816	Inorganic pigments	County data: Industrial chemicals output
SIC_281&6out	2819	Industrial inorganic chemicals, nec	County data: Industrial chemicals output
SIC_282-out	2821	Plastics materials and resins	County data: Plastics materials and synthetics output
SIC_282-out	2822	Synthetic rubber	County data: Plastics materials and synthetics output
SIC_282-out	2823	Cellulosic manmade fibers	County data: Plastics materials and synthetics output
SIC_282-out	2824	Organic fibers, noncellulosic	County data: Plastics materials and synthetics output
SIC_282-out	2829	INVALID SIC	County data: Plastics materials and synthetics output
SIC_283-out	2831	OUTDATED (1977) SIC	County data: Drugs output
SIC_283-out	2833	Medicinals and botanicals	County data: Drugs output
SIC_283-out	2834	Pharmaceutical preparations	County data: Drugs output
SIC_283-out	2835	Diagnostic substances	County data: Drugs output
SIC_283-out	2836	Biological products exc. diagnostic	County data: Drugs output
SIC_283-out	2837	INVALID SIC	County data: Drugs output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_284-out	2841	Soap and other detergents	County data: Soap, cleaners, and toilet goods output
SIC_284-out	2842	Polishes and sanitation goods	County data: Soap, cleaners, and toilet goods output
SIC_284-out	2843	Surface active agents	County data: Soap, cleaners, and toilet goods output
SIC_284-out	2844	Toilet preparations	County data: Soap, cleaners, and toilet goods output
SIC_285-out	2850	Paints and Allied Products	County data: Paints and allied products output
SIC_285-out	2851	Paints and allied products	County data: Paints and allied products output
SIC_281&6out	2861	Gum and wood chemicals	County data: Industrial chemicals output
SIC_281&6out	2865	Cyclic crudes and intermediates	County data: Industrial chemicals output
SIC_281&6out	2869	Industrial organic chemicals, nec	County data: Industrial chemicals output
SIC_287-out	2873	Nitrogenous fertilizers	County data: Agricultural chemicals output
SIC_287-out	2874	Phosphatic fertilizers	County data: Agricultural chemicals output
SIC_287-out	2875	Fertilizers, mixing only	County data: Agricultural chemicals output
SIC_287-out	2879	Agricultural chemicals, nec	County data: Agricultural chemicals output
SIC_289-out	2891	Adhesives and sealants	County data: Miscellaneous chemical products output
SIC_289-out	2892	Explosives	County data: Miscellaneous chemical products output
SIC_289-out	2893	Printing ink	County data: Miscellaneous chemical products output
SIC_289-out	2895	Carbon black	County data: Miscellaneous chemical products output
SIC_289-out	2899	Chemical preparations, nec	County data: Miscellaneous chemical products output
SIC_291-out	2911	Petroleum refining	County data: Petroleum refining output
SIC_295&9out	2951	Asphalt paving mixtures and blocks	County data: Misc. petroleum and coal products output
SIC_295&9out	2952	Asphalt felts and coatings	County data: Misc. petroleum and coal products output
SIC_295&9out	2953	INVALID SIC	County data: Misc. petroleum and coal products output
SIC_295&9out	2992	Lubricating oils and greases	County data: Misc. petroleum and coal products output
SIC_295&9out	2999	Petroleum and coal products, nec	County data: Misc. petroleum and coal products output
SIC_301-out	3011	Tires and inner tubes	County data: Tires and inner tubes output
SIC_302+-out	3021	Rubber and plastics footwear	County data: Rubber prods & plastic hose & footwear output
SIC_302+-out	3052	Rubber & plastics hose & belting	County data: Rubber prods & plastic hose & footwear output
SIC_302+-out	3053	Gaskets, packing and sealing devices	County data: Rubber prods & plastic hose & footwear output
SIC_302+-out	3061	Mechanical rubber goods	County data: Rubber prods & plastic hose & footwear output
SIC_302+-out	3069	Fabricated rubber products, nec	County data: Rubber prods & plastic hose & footwear output
SIC_30-out	3076	INVALID SIC	County data: Rubber output
SIC_30-out	3079	OUTDATED (1977) SIC	County data: Rubber output
SIC_308-out	3081	Unsupported plastics film & sheet	County data: Miscellaneous plastics products, nec output
SIC_308-out	3082	Unsupported plastics profile shapes	County data: Miscellaneous plastics products, nec output
SIC_308-out	3083	Laminated plastics plate & sheet	County data: Miscellaneous plastics products, nec output
SIC_308-out	3084	Plastics pipe	County data: Miscellaneous plastics products, nec output
SIC_308-out	3085	Plastics bottles	County data: Miscellaneous plastics products, nec output
SIC_308-out	3086	Plastics foam products	County data: Miscellaneous plastics products, nec output
SIC_308-out	3087	Custom compound purchased resins	County data: Miscellaneous plastics products, nec output
SIC_308-out	3088	Plastics plumbing fixtures	County data: Miscellaneous plastics products, nec output
SIC_308-out	3089	Plastics products, nec	County data: Miscellaneous plastics products, nec output
SIC_311+-out	3110	Leather tanning and finishing	County data: Luggage, handbags, & leath prods, nec output
SIC_311+-out	3111	Leather Tanning and Finishing	County data: Luggage, handbags, & leath prods, nec output
SIC_313&4out	3131	Footwear cut stock	County data: Footwear, except rubber and plastic output
SIC_313&4out	3142	House slippers	County data: Footwear, except rubber and plastic output
SIC_313&4out	3143	Men's footwear, except athletic	County data: Footwear, except rubber and plastic output
SIC_313&4out	3144	Women's footwear, except athletic	County data: Footwear, except rubber and plastic output
SIC_313&4out	3149	Footwear, except rubber, nec	County data: Footwear, except rubber and plastic output
SIC_311+-out	3151	Leather gloves and mittens	County data: Luggage, handbags, & leath prods, nec output
SIC_311+-out	3157	INVALID SIC	County data: Luggage, handbags, & leath prods, nec output
SIC_311+-out	3161	Luggage	County data: Luggage, handbags, & leath prods, nec output
SIC_311+-out	3171	Women's handbags and purses	County data: Luggage, handbags, & leath prods, nec output
SIC_311+-out	3172	Personal leather goods, nec	County data: Luggage, handbags, & leath prods, nec output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_311+-out	3199	Leather goods, nec	County data: Luggage, handbags, & leath prods, nec output
SIC_321+-out	3211	Flat glass	County data: Glass and glass products output
SIC_321+-out	3221	Glass containers	County data: Glass and glass products output
SIC_321+-out	3229	Pressed and blown glass, nec	County data: Glass and glass products output
SIC_321+-out	3231	Products of purchased glass	County data: Glass and glass products output
SIC_324-out	3241	Cement, hydraulic	County data: Hydraulic cement output
SIC_325+-out	3251	Brick and structural clay tile	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3253	Ceramic wall and floor tile	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3255	Clay refractories	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3259	Structural clay products, nec	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3261	Vitreous plumbing fixtures	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3262	Vitreous china table & kitchenware	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3263	Semivitreous table & kitchenware	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3264	Porcelain electrical supplies	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3269	Pottery products, nec	County data: Stone, clay, & misc. mineral products output
SIC_327-out	3271	Concrete block and brick	County data: Concrete, gypsum, & plaster products output
SIC_327-out	3272	Concrete products, nec	County data: Concrete, gypsum, & plaster products output
SIC_327-out	3273	Ready-mixed concrete	County data: Concrete, gypsum, & plaster products output
SIC_327-out	3274	Lime	County data: Concrete, gypsum, & plaster products output
SIC_327-out	3275	Gypsum products	County data: Concrete, gypsum, & plaster products output
SIC_325+-out	3281	Cut stone and stone products	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3291	Abrasive products	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3292	Asbestos products	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3295	Minerals, ground or treated	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3296	Mineral wool	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3297	Nonclay refractories	County data: Stone, clay, & misc. mineral products output
SIC_325+-out	3299	Nonmetallic mineral products, nec	County data: Stone, clay, & misc. mineral products output
SIC_331-out	3312	Blast furnaces and steel mills	County data: Blast furnaces & basic steel products output
SIC_331-out	3313	Electrometallurgical products	County data: Blast furnaces & basic steel products output
SIC_331-out	3315	Steel wire and related products	County data: Blast furnaces & basic steel products output
SIC_331-out	3316	Cold finishing of steel shapes	County data: Blast furnaces & basic steel products output
SIC_331-out	3317	Steel pipe and tubes	County data: Blast furnaces & basic steel products output
SIC_332-out	3321	Gray and ductile iron foundries	County data: Iron and steel foundries output
SIC_332-out	3322	Malleable iron foundries	County data: Iron and steel foundries output
SIC_332-out	3324	Steel investment foundries	County data: Iron and steel foundries output
SIC_332-out	3325	Steel foundries, nec	County data: Iron and steel foundries output
SIC_333-out	3331	Primary copper	County data: Primary nonferrous smelting & refining output
SIC_333-out	3334	Primary aluminum	County data: Primary nonferrous smelting & refining output
SIC_333-out	3339	Primary nonferrous metals, nec	County data: Primary nonferrous smelting & refining output
SIC_334&9out	3340	Secondary Nonferrous Metals	County data: Secdry nonferr & misc primary metal output
SIC_334&9out	3341	Secondary nonferrous metals	County data: Secdry nonferr & misc primary metal output
SIC_335-out	3351	Copper rolling and drawing	County data: Nonferrous rolling and drawing output
SIC_335-out	3353	Aluminum sheet, plate, and foil	County data: Nonferrous rolling and drawing output
SIC_335-out	3354	Aluminum, extruded products	County data: Nonferrous rolling and drawing output
SIC_335-out	3355	Aluminum rolling and drawing, nec	County data: Nonferrous rolling and drawing output
SIC_335-out	3356	Nonferrous rolling and drawing, nec	County data: Nonferrous rolling and drawing output
SIC_335-out	3357	Nonferrous wiredrawing & insulating	County data: Nonferrous rolling and drawing output
SIC_336-out	3361	OUTDATED (1977) SIC	County data: Nonferrous foundries output
SIC_336-out	3363	Aluminum die-castings	County data: Nonferrous foundries output
SIC_336-out	3364	Nonferrous die-casting exc. aluminum	County data: Nonferrous foundries output
SIC_336-out	3365	Aluminum foundries	County data: Nonferrous foundries output
SIC_336-out	3366	Copper foundries	County data: Nonferrous foundries output
SIC_336-out	3369	Nonferrous foundries, nec	County data: Nonferrous foundries output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_334&9out	3398	Metal heat treating	County data: Secdry nonferr & misc primary metal output
SIC_334&9out	3399	Primary metal products, nec	County data: Secdry nonferr & misc primary metal output
SIC_341-out	3411	Metal cans	County data: Metal cans and shipping containers output
SIC_341-out	3412	Metal barrels, drums, and pails	County data: Metal cans and shipping containers output
SIC_342-out	3421	Cutlery	County data: Cutlery, hand tools, and hardware output
SIC_342-out	3423	Hand and edge tools, nec	County data: Cutlery, hand tools, and hardware output
SIC_342-out	3425	Saw blades and handsaws	County data: Cutlery, hand tools, and hardware output
SIC_342-out	3429	Hardware, nec	County data: Cutlery, hand tools, and hardware output
SIC_343-out	3431	Metal sanitary ware	County data: Plumbing & nonelectric heating equip output
SIC_343-out	3432	Plumbing fixture fittings and trim	County data: Plumbing & nonelectric heating equip output
SIC_343-out	3433	Heating equipment, except electric	County data: Plumbing & nonelectric heating equip output
SIC_344-out	3441	Fabricated structural metal	County data: Fabricated structural metal products output
SIC_344-out	3442	Metal doors, sash, and trim	County data: Fabricated structural metal products output
SIC_344-out	3443	Fabricated plate work (boiler shops)	County data: Fabricated structural metal products output
SIC_344-out	3444	Sheet metal work	County data: Fabricated structural metal products output
SIC_344-out	3446	Architectural metal work	County data: Fabricated structural metal products output
SIC_344-out	3448	Prefabricated metal buildings	County data: Fabricated structural metal products output
SIC_344-out	3449	Miscellaneous metal work	County data: Fabricated structural metal products output
SIC_345-out	3450	Screw Machine Products, Bolts, Etc.	County data: Screw machine prods, bolts, rivets, etc output
SIC_345-out	3451	Screw machine products	County data: Screw machine prods, bolts, rivets, etc output
SIC_345-out	3452	Bolts, nuts, rivets, and washers	County data: Screw machine prods, bolts, rivets, etc output
SIC_346-out	3462	Iron and steel forgings	County data: Metal forgings and stampings output
SIC_346-out	3463	Nonferrous forgings	County data: Metal forgings and stampings output
SIC_346-out	3465	Automotive stampings	County data: Metal forgings and stampings output
SIC_346-out	3466	Crowns and closures	County data: Metal forgings and stampings output
SIC_346-out	3469	Metal stampings, nec	County data: Metal forgings and stampings output
SIC_347-out	3471	Plating and polishing	County data: Metal coating, engraving, & allied serv output
SIC_347-out	3479	Metal coating and allied services	County data: Metal coating, engraving, & allied serv output
SIC_348-out	3482	Small arms ammunition	County data: Ordnance and ammunition output
SIC_348-out	3483	Ammunition, exc. for small arms, nec	County data: Ordnance and ammunition output
SIC_348-out	3484	Small arms	County data: Ordnance and ammunition output
SIC_348-out	3489	Ordnance and accessories, nec	County data: Ordnance and ammunition output
SIC_349-out	3491	Industrial valves	County data: Misc. fabricated metal products output
SIC_349-out	3492	Fluid power valves & hose fittings	County data: Misc. fabricated metal products output
SIC_349-out	3493	Steel springs, except wire	County data: Misc. fabricated metal products output
SIC_349-out	3494	Valves and pipe fittings, nec	County data: Misc. fabricated metal products output
SIC_349-out	3495	Wire springs	County data: Misc. fabricated metal products output
SIC_349-out	3496	Misc. fabricated wire products	County data: Misc. fabricated metal products output
SIC_349-out	3497	Metal foil and leaf	County data: Misc. fabricated metal products output
SIC_349-out	3498	Fabricated pipe and fittings	County data: Misc. fabricated metal products output
SIC_349-out	3499	Fabricated metal products, nec	County data: Misc. fabricated metal products output
SIC_351-out	3511	Turbines and turbine generator sets	County data: Engines and turbines output
SIC_351-out	3519	Internal combustion engines, nec	County data: Engines and turbines output
SIC_352-out	3523	Farm machinery and equipment	County data: Farm & garden machinery & equip output
SIC_352-out	3524	Lawn and garden equipment	County data: Farm & garden machinery & equip output
SIC_353-out	3531	Construction machinery	County data: Construction & related machinery output
SIC_353-out	3532	Mining machinery	County data: Construction & related machinery output
SIC_353-out	3533	Oil and gas field machinery	County data: Construction & related machinery output
SIC_353-out	3534	Elevators and moving stairways	County data: Construction & related machinery output
SIC_353-out	3535	Conveyors and conveying equipment	County data: Construction & related machinery output
SIC_353-out	3536	Hoists, cranes, and monorails	County data: Construction & related machinery output
SIC_353-out	3537	Industrial trucks and tractors	County data: Construction & related machinery output
SIC_354-out	3541	Machine tools, metal cutting types	County data: Metalworking machinery & equipment output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_354-out	3542	Machine tools, metal forming types	County data: Metalworking machinery & equipment output
SIC_354-out	3543	Industrial patterns	County data: Metalworking machinery & equipment output
SIC_354-out	3544	Special dies, tools, jigs & fixtures	County data: Metalworking machinery & equipment output
SIC_354-out	3545	Machine tool accessories	County data: Metalworking machinery & equipment output
SIC_354-out	3546	Power-driven handtools	County data: Metalworking machinery & equipment output
SIC_354-out	3547	Rolling mill machinery	County data: Metalworking machinery & equipment output
SIC_354-out	3548	Welding apparatus	County data: Metalworking machinery & equipment output
SIC_354-out	3549	Metalworking machinery, nec	County data: Metalworking machinery & equipment output
SIC_355-out	3551	OUTDATED (1977) SIC	County data: Special industry machinery output
SIC_355-out	3552	Textile machinery	County data: Special industry machinery output
SIC_355-out	3553	Woodworking machinery	County data: Special industry machinery output
SIC_355-out	3554	Paper industries machinery	County data: Special industry machinery output
SIC_355-out	3555	Printing trades machinery	County data: Special industry machinery output
SIC_355-out	3556	Food products machinery	County data: Special industry machinery output
SIC_355-out	3559	Special industry machinery, nec	County data: Special industry machinery output
SIC_356-out	3561	Pumps and pumping equipment	County data: Genl industrial machinery & equip output
SIC_356-out	3562	Ball and roller bearings	County data: Genl industrial machinery & equip output
SIC_356-out	3563	Air and gas compressors	County data: Genl industrial machinery & equip output
SIC_356-out	3564	Blowers and fans	County data: Genl industrial machinery & equip output
SIC_356-out	3565	Packaging machinery	County data: Genl industrial machinery & equip output
SIC_356-out	3566	Speed changers, drives, and gears	County data: Genl industrial machinery & equip output
SIC_356-out	3567	Industrial furnaces and ovens	County data: Genl industrial machinery & equip output
SIC_356-out	3568	Power transmission equipment, nec	County data: Genl industrial machinery & equip output
SIC_356-out	3569	General industrial machinery, nec	County data: Genl industrial machinery & equip output
SIC_357-out	3571	Electronic computers	County data: Computer and office equipment output
SIC_357-out	3572	Computer storage devices	County data: Computer and office equipment output
SIC_357-out	3573	OUTDATED (1977) SIC	County data: Computer and office equipment output
SIC_357-out	3575	Computer terminals	County data: Computer and office equipment output
SIC_357-out	3577	Computer peripheral equipment, nec	County data: Computer and office equipment output
SIC_357-out	3578	Calculating and accounting equipment	County data: Computer and office equipment output
SIC_357-out	3579	Office machines, nec	County data: Computer and office equipment output
SIC_358-out	3581	Automatic vending machines	County data: Refrig. & service industry machinery output
SIC_358-out	3582	Commercial laundry equipment	County data: Refrig. & service industry machinery output
SIC_358-out	3585	Refrigeration and heating equipment	County data: Refrig. & service industry machinery output
SIC_358-out	3586	Measuring and dispensing pumps	County data: Refrig. & service industry machinery output
SIC_358-out	3589	Service industry machinery, nec	County data: Refrig. & service industry machinery output
SIC_359-out	3592	Carburetors, pistons, rings, valves	County data: Industrial machinery, nec output
SIC_359-out	3593	Fluid power cylinders & actuators	County data: Industrial machinery, nec output
SIC_359-out	3594	Fluid power pumps and motors	County data: Industrial machinery, nec output
SIC_359-out	3596	Scales and balances, exc. laboratory	County data: Industrial machinery, nec output
SIC_359-out	3599	Industrial machinery, nec	County data: Industrial machinery, nec output
SIC_361-out	3612	Transformers, except electronic	County data: Electric distribution equipment output
SIC_361-out	3613	Switchgear and switchboard apparatus	County data: Electric distribution equipment output
SIC_362-out	3621	Motors and generators	County data: Electrical industrial apparatus output
SIC_362-out	3624	Carbon and graphite products	County data: Electrical industrial apparatus output
SIC_362-out	3625	Relays and industrial controls	County data: Electrical industrial apparatus output
SIC_362-out	3629	Electrical industrial apparatus, nec	County data: Electrical industrial apparatus output
SIC_363-out	3631	Household cooking equipment	County data: Household appliances output
SIC_363-out	3632	Household refrigerators and freezers	County data: Household appliances output
SIC_363-out	3633	Household laundry equipment	County data: Household appliances output
SIC_363-out	3634	Electric housewares and fans	County data: Household appliances output
SIC_363-out	3635	Household vacuum cleaners	County data: Household appliances output
SIC_363-out	3639	Household appliances, nec	County data: Household appliances output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_364-out	3641	Electric lamps	County data: Electric lighting & wiring equipment output
SIC_364-out	3643	Current-carrying wiring devices	County data: Electric lighting & wiring equipment output
SIC_364-out	3644	Noncurrent-carrying wiring devices	County data: Electric lighting & wiring equipment output
SIC_364-out	3645	Residential lighting fixtures	County data: Electric lighting & wiring equipment output
SIC_364-out	3646	Commercial lighting fixtures	County data: Electric lighting & wiring equipment output
SIC_364-out	3647	Vehicular lighting equipment	County data: Electric lighting & wiring equipment output
SIC_364-out	3648	Lighting equipment, nec	County data: Electric lighting & wiring equipment output
SIC_365-out	3651	Household audio and video equipment	County data: Household audio & video equipment output
SIC_365-out	3652	Prerecorded records and tapes	County data: Household audio & video equipment output
SIC_366-out	3661	Telephone and telegraph apparatus	County data: Communications equipment output
SIC_366-out	3662	OUTDATED (1977) SIC	County data: Communications equipment output
SIC_366-out	3663	Radio & TV communications equipment	County data: Communications equipment output
SIC_366-out	3665	INVALID SIC	County data: Communications equipment output
SIC_366-out	3669	Communications equipment, nec	County data: Communications equipment output
SIC_367-out	3670	Electronic Components and Accessories	County data: Electronic components & accessories output
SIC_367-out	3671	Electron tubes	County data: Electronic components & accessories output
SIC_367-out	3672	Printed circuit boards	County data: Electronic components & accessories output
SIC_367-out	3673	OUTDATED (1977) SIC	County data: Electronic components & accessories output
SIC_367-out	3674	Semiconductors and related devices	County data: Electronic components & accessories output
SIC_367-out	3675	Electronic capacitors	County data: Electronic components & accessories output
SIC_367-out	3676	Electronic resistors	County data: Electronic components & accessories output
SIC_367-out	3677	Electronic coils and transformers	County data: Electronic components & accessories output
SIC_367-out	3678	Electronic connectors	County data: Electronic components & accessories output
SIC_367-out	3679	Electronic components, nec	County data: Electronic components & accessories output
SIC_36-out	3681	INVALID SIC	County data: Electronic & other electric equipment output
SIC_369-out	3690	Misc. Electrical Equipment & Supplies	County data: Miscellaneous electrical equipment output
SIC_369-out	3691	Storage batteries	County data: Miscellaneous electrical equipment output
SIC_369-out	3692	Primary batteries, dry and wet	County data: Miscellaneous electrical equipment output
SIC_369-out	3694	Engine electrical equipment	County data: Miscellaneous electrical equipment output
SIC_369-out	3695	Magnetic and optical recording media	County data: Miscellaneous electrical equipment output
SIC_369-out	3699	Electrical equipment & supplies, nec	County data: Miscellaneous electrical equipment output
SIC_371-out	3711	Motor vehicles and car bodies	County data: Motor vehicles output
SIC_371-out	3713	Truck and bus bodies	County data: Motor vehicles output
SIC_371-out	3714	Motor vehicle parts and accessories	County data: Motor vehicles output
SIC_371-out	3715	Truck trailers	County data: Motor vehicles output
SIC_371-out	3716	Motor homes	County data: Motor vehicles output
SIC_372&6out	3720	Aircraft and Parts	County data: Aerospace output
SIC_372&6out	3721	Aircraft	County data: Aerospace output
SIC_372&6out	3724	Aircraft engines and engine parts	County data: Aerospace output
SIC_372&6out	3728	Aircraft parts and equipment, nec	County data: Aerospace output
SIC_373-out	3731	Ship building and repairing	County data: Ship and boat building and repairing output
SIC_373-out	3732	Boat building and repairing	County data: Ship and boat building and repairing output
SIC_374-out	3743	Railroad equipment	County data: Railroad equipment output
SIC_375&9out	3751	Motorcycles, bicycles, and parts	County data: Misc. transportation equipment output
SIC_372&6out	3761	Guided missiles and space vehicles	County data: Aerospace output
SIC_372&6out	3764	Space propulsion units and parts	County data: Aerospace output
SIC_372&6out	3769	Space vehicle equipment, nec	County data: Aerospace output
SIC_375&9out	3792	Travel trailers and campers	County data: Misc. transportation equipment output
SIC_375&9out	3795	Tanks and tank components	County data: Misc. transportation equipment output
SIC_375&9out	3799	Transportation equipment, nec	County data: Misc. transportation equipment output
SIC_381-out	3811	OUTDATED (1977) SIC	County data: Search and navigation equipment output
SIC_381-out	3812	Search and navigation equipment	County data: Search and navigation equipment output
SIC_382-out	3821	Laboratory apparatus and furniture	County data: Measuring and controlling devices output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_382-out	3822	Environmental controls	County data: Measuring and controlling devices output
SIC_382-out	3823	Process control instruments	County data: Measuring and controlling devices output
SIC_382-out	3824	Fluid meters and counting devices	County data: Measuring and controlling devices output
SIC_382-out	3825	Instruments to measure electricity	County data: Measuring and controlling devices output
SIC_382-out	3826	Analytical instruments	County data: Measuring and controlling devices output
SIC_382-out	3827	Optical instruments and lenses	County data: Measuring and controlling devices output
SIC_382-out	3829	Measuring & controlling devices, nec	County data: Measuring and controlling devices output
SIC_38-out	3834	INVALID SIC	County data: Instruments output
SIC_384-out	3841	Surgical and medical instruments	County data: Medical equip, instruments & supplies output
SIC_384-out	3842	Surgical appliances and supplies	County data: Medical equip, instruments & supplies output
SIC_384-out	3843	Dental equipment and supplies	County data: Medical equip, instruments & supplies output
SIC_384-out	3844	X-ray apparatus and tubes	County data: Medical equip, instruments & supplies output
SIC_384-out	3845	Electromedical equipment	County data: Medical equip, instruments & supplies output
SIC_385-out	3851	Ophthalmic goods	County data: Ophthalmic goods output
SIC_386-out	3861	Photographic equipment and supplies	County data: Photographic equipment & supplies output
SIC_387-out	3872	INVALID SIC	County data: Watches, clocks, and parts output
SIC_387-out	3873	Watches, clocks, watchcases & parts	County data: Watches, clocks, and parts output
SIC_391-out	3911	Jewelry, precious metal	County data: Jewelry, silverware, and plated ware output
SIC_391-out	3914	Silverware and plate ware	County data: Jewelry, silverware, and plated ware output
SIC_391-out	3915	Jewelers' materials & lapidary work	County data: Jewelry, silverware, and plated ware output
SIC_393+out	3930	Musical Instruments	County data: Manufactured products, nec output
SIC_393+out	3931	Musical instruments	County data: Manufactured products, nec output
SIC_394-out	3942	Dolls and stuffed toys	County data: Toys and sporting goods output
SIC_394-out	3944	Games, toys, and children's vehicles	County data: Toys and sporting goods output
SIC_394-out	3949	Sporting and athletic goods, nec	County data: Toys and sporting goods output
SIC_393+out	3951	Pens and mechanical pencils	County data: Manufactured products, nec output
SIC_393+out	3952	Lead pencils and art goods	County data: Manufactured products, nec output
SIC_393+out	3953	Marking devices	County data: Manufactured products, nec output
SIC_393+out	3955	Carbon paper and inked ribbons	County data: Manufactured products, nec output
SIC_393+out	3961	Costume jewelry	County data: Manufactured products, nec output
SIC_393+out	3965	Fasteners, buttons, needles, & pins	County data: Manufactured products, nec output
SIC_39-out	3970	INVALID SIC	County data: Miscellaneous manufacturing output
SIC_393+out	3991	Brooms and brushes	County data: Manufactured products, nec output
SIC_393+out	3993	Signs and advertising specialties	County data: Manufactured products, nec output
SIC_393+out	3995	Burial caskets	County data: Manufactured products, nec output
SIC_393+out	3996	Hard surface floor coverings, nec	County data: Manufactured products, nec output
SIC_393+out	3999	Manufacturing industries, nec	County data: Manufactured products, nec output
SIC_40-out	4011	Railroads, line-haul operating	County data: Railroad output
SIC_40-out	4013	Switching and terminal services	County data: Railroad output
SIC_40-out	4032	INVALID SIC	County data: Railroad output
SIC_41-out	4100	Local and Interurban Passenger Transit	County data: Local & interurban passenger transit output
SIC_41-out	4111	Local and suburban transit	County data: Local & interurban passenger transit output
SIC_41-out	4119	Local passenger transportation, nec	County data: Local & interurban passenger transit output
SIC_41-out	4121	Taxicabs	County data: Local & interurban passenger transit output
SIC_41-out	4131	Intercity & rural bus transportation	County data: Local & interurban passenger transit output
SIC_41-out	4141	Local bus service, except local	County data: Local & interurban passenger transit output
SIC_41-out	4142	Bus charter service, except local	County data: Local & interurban passenger transit output
SIC_41-out	4151	School buses	County data: Local & interurban passenger transit output
SIC_41-out	4153	INVALID SIC	County data: Local & interurban passenger transit output
SIC_41-out	4172	OUTDATED (1977) SIC	County data: Local & interurban passenger transit output
SIC_41-out	4173	Bus terminal and service facilities	County data: Local & interurban passenger transit output
SIC_42-out	4212	Local trucking, without storage	County data: Trucking and warehousing output
SIC_42-out	4213	Trucking, except local	County data: Trucking and warehousing output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_42-out	4214	Local trucking with storage	County data: Trucking and warehousing output
SIC_42-out	4215	Courier services, except by air	County data: Trucking and warehousing output
SIC_42-out	4221	Farm product warehousing and storage	County data: Trucking and warehousing output
SIC_42-out	4222	Refrigerated warehousing and storage	County data: Trucking and warehousing output
SIC_42-out	4225	General warehousing and storage	County data: Trucking and warehousing output
SIC_42-out	4226	Special warehousing and storage, nec	County data: Trucking and warehousing output
SIC_42-out	4231	Trucking terminal facilities	County data: Trucking and warehousing output
POSTAL	4300	U.S. Postal Service	County data: Postal clerks and mail carriers (number)
POSTAL	4311	U.S. Postal Service	County data: Postal clerks and mail carriers (number)
POSTAL	4353	INVALID SIC	County data: Postal clerks and mail carriers (number)
POSTAL	4392	INVALID SIC	County data: Postal clerks and mail carriers (number)
SIC_44-out	4411	OUTDATED (1977) SIC	County data: Water transportation output
SIC_44-out	4412	Deep sea foreign trans. of freight	County data: Water transportation output
SIC_44-out	4424	Deep sea domestic trans. of freight	County data: Water transportation output
SIC_44-out	4432	Freight trans. on the Great Lakes	County data: Water transportation output
SIC_44-out	4449	Water transportation of freight, nec	County data: Water transportation output
SIC_44-out	4463	OUTDATED (1977) SIC	County data: Water transportation output
SIC_44-out	4481	Deep sea passenger trans., ex. ferry	County data: Water transportation output
SIC_44-out	4482	Ferries	County data: Water transportation output
SIC_44-out	4489	Water passenger transportation, nec	County data: Water transportation output
SIC_44-out	4491	Marine cargo handling	County data: Water transportation output
SIC_44-out	4492	Towing and tugboat service	County data: Water transportation output
SIC_44-out	4493	Marinas	County data: Water transportation output
SIC_44-out	4499	Water transportation services, nec	County data: Water transportation output
SIC_45-out	4510	Air Transportation, Scheduled	County data: Air transportation output
SIC_45-out	4512	Air transportation, scheduled	County data: Air transportation output
SIC_45-out	4513	Air courier services	County data: Air transportation output
SIC_45-out	4522	Air transportation, nonscheduled	County data: Air transportation output
SIC_45-out	4581	Airports, flying fields, & services	County data: Air transportation output
SIC_45-out	4582	OUTDATED (1977) SIC	County data: Air transportation output
SIC_46-out	4612	Crude petroleum pipelines	County data: Pipelines, except natural gas output
SIC_46-out	4613	Refined petroleum pipelines	County data: Pipelines, except natural gas output
SIC_46-out	4619	Pipelines, nec	County data: Pipelines, except natural gas output
SIC_472-out	4724	Travel agencies	County data: Passenger transportation arrangement output
SIC_472-out	4725	Tour operators	County data: Passenger transportation arrangement output
SIC_472-out	4729	Passenger transport arrangement, nec	County data: Passenger transportation arrangement output
SIC_473+-out	4731	Freight transportation arrangement	County data: Miscellaneous transportation services output
SIC_473+-out	4741	Rental of railroad cars	County data: Miscellaneous transportation services output
SIC_473+-out	4742	OUTDATED (1977) SIC	County data: Miscellaneous transportation services output
SIC_473+-out	4783	Packing and crating	County data: Miscellaneous transportation services output
SIC_473+-out	4785	Inspection & fixed facilities	County data: Miscellaneous transportation services output
SIC_473+-out	4789	Transportation services, nec	County data: Miscellaneous transportation services output
SIC_48-out	4810	Telephone Communications	County data: Communications output
SIC_48-out	4812	Radiotelephone communications	County data: Communications output
SIC_48-out	4813	Telephone communications, exc. radio	County data: Communications output
SIC_48-out	4822	Telegraph & other communications	County data: Communications output
SIC_48-out	4832	Radio broadcasting stations	County data: Communications output
SIC_48-out	4833	Television broadcasting stations	County data: Communications output
SIC_48-out	4841	Cable and other pay TV services	County data: Communications output
SIC_48-out	4899	Communications services, nec	County data: Communications output
TOTAL_UTIL	4911	Electric services	Total utility fuel use from CEC, EIA, & regress-SIC_491&3out
SIC_492&3out	4922	Natural gas transmission	County data: Gas utilities output
SIC_492&3out	4923	Gas transmission and distribution	County data: Gas utilities output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_492&3out	4924	Natural gas distribution	County data: Gas utilities output
SIC_492&3out	4925	Gas production and/or distribution	County data: Gas utilities output
TOTAL_UTIL	4931	Electric and other services combined	Total utility fuel use from CEC, EIA, & regress-SIC_491&3out
SIC_492&3out	4932	Gas and other services combined	County data: Gas utilities output
SIC_491&3out	4939	Combination utilities, nec	County data: Electric utilities output
SIC_494+-out	4941	Water supply	County data: Water and sanitation output
SIC_494+-out	4952	Sewerage systems	County data: Water and sanitation output
SIC_494+-out	4953	Refuse systems	County data: Water and sanitation output
SIC_494+-out	4956	INVALID SIC	County data: Water and sanitation output
SIC_494+-out	4959	Sanitary services, nec	County data: Water and sanitation output
SIC_494+-out	4961	Steam and air-conditioning supply	County data: Water and sanitation output
SIC_494+-out	4971	Irrigation systems	County data: Water and sanitation output
SIC_50&1-out	5012	Automobiles and other motor vehicles	County data: Wholesale trade output
SIC_50&1-out	5013	Motor vehicle supplies and new parts	County data: Wholesale trade output
SIC_50&1-out	5014	Tires and tubes	County data: Wholesale trade output
SIC_50&1-out	5015	Motor vehicle parts, used	County data: Wholesale trade output
SIC_50&1-out	5021	Furniture	County data: Wholesale trade output
SIC_50&1-out	5023	Homefurnishings	County data: Wholesale trade output
SIC_50&1-out	5031	Lumber, plywood, and millwork	County data: Wholesale trade output
SIC_50&1-out	5032	Brick, stone, & related materials	County data: Wholesale trade output
SIC_50&1-out	5033	Roofing, siding, & insulation	County data: Wholesale trade output
SIC_50&1-out	5039	Construction materials, nec	County data: Wholesale trade output
SIC_50&1-out	5043	Photographic equipment and supplies	County data: Wholesale trade output
SIC_50&1-out	5044	Office equipment	County data: Wholesale trade output
SIC_50&1-out	5045	Computers, peripherals & software	County data: Wholesale trade output
SIC_50&1-out	5046	Commercial equipment, nec	County data: Wholesale trade output
SIC_50&1-out	5047	Medical and hospital equipment	County data: Wholesale trade output
SIC_50&1-out	5048	Ophthalmic goods	County data: Wholesale trade output
SIC_50&1-out	5049	Professional equipment, nec	County data: Wholesale trade output
SIC_50&1-out	5051	Metals service centers and offices	County data: Wholesale trade output
SIC_50&1-out	5052	Coal and other minerals and ores	County data: Wholesale trade output
SIC_50&1-out	5063	Electrical apparatus and equipment	County data: Wholesale trade output
SIC_50&1-out	5064	Electrical appliances, TV & radios	County data: Wholesale trade output
SIC_50&1-out	5065	Electronic parts and equipment	County data: Wholesale trade output
SIC_50&1-out	5072	Hardware	County data: Wholesale trade output
SIC_50&1-out	5074	Plumbing & hydronic heating supplies	County data: Wholesale trade output
SIC_50&1-out	5075	Warm air heating & air-conditioning	County data: Wholesale trade output
SIC_50&1-out	5078	Refrigeration equipment and supplies	County data: Wholesale trade output
SIC_50&1-out	5082	Construction and mining machinery	County data: Wholesale trade output
SIC_50&1-out	5083	Farm and garden machinery	County data: Wholesale trade output
SIC_50&1-out	5084	Industrial machinery and equipment	County data: Wholesale trade output
SIC_50&1-out	5085	Industrial supplies	County data: Wholesale trade output
SIC_50&1-out	5087	Service establishment equipment	County data: Wholesale trade output
SIC_50&1-out	5088	Transportation equipment & supplies	County data: Wholesale trade output
SIC_50&1-out	5091	Sporting & recreational goods	County data: Wholesale trade output
SIC_50&1-out	5092	Toys and hobby goods and supplies	County data: Wholesale trade output
SIC_50&1-out	5093	Scrap and waste materials	County data: Wholesale trade output
SIC_50&1-out	5094	Jewelry & precious stones	County data: Wholesale trade output
SIC_50&1-out	5098	INVALID SIC	County data: Wholesale trade output
SIC_50&1-out	5099	Durable goods, nec	County data: Wholesale trade output
SIC_50&1-out	5111	Printing and writing paper	County data: Wholesale trade output
SIC_50&1-out	5112	Stationery and office supplies	County data: Wholesale trade output
SIC_50&1-out	5113	Industrial & personal service paper	County data: Wholesale trade output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_50&1-out	5122	Drugs, proprietaries, and sundries	County data: Wholesale trade output
SIC_50&1-out	5131	Piece goods & notions	County data: Wholesale trade output
SIC_50&1-out	5136	Men's and boys' clothing	County data: Wholesale trade output
SIC_50&1-out	5137	Women's and children's clothing	County data: Wholesale trade output
SIC_50&1-out	5139	Footwear	County data: Wholesale trade output
SIC_50&1-out	5141	Groceries, general line	County data: Wholesale trade output
SIC_50&1-out	5142	Packaged frozen foods	County data: Wholesale trade output
SIC_50&1-out	5143	Dairy products, exc. dried or canned	County data: Wholesale trade output
SIC_50&1-out	5144	Poultry and poultry products	County data: Wholesale trade output
SIC_50&1-out	5145	Confectionery	County data: Wholesale trade output
SIC_50&1-out	5146	Fish and seafoods	County data: Wholesale trade output
SIC_50&1-out	5147	Meats and meat products	County data: Wholesale trade output
SIC_50&1-out	5148	Fresh fruits and vegetables	County data: Wholesale trade output
SIC_50&1-out	5149	Groceries and related products, nec	County data: Wholesale trade output
SIC_50&1-out	5153	Grain and field beans	County data: Wholesale trade output
SIC_50&1-out	5154	Livestock	County data: Wholesale trade output
SIC_50&1-out	5159	Farm-product raw materials, nec	County data: Wholesale trade output
SIC_50&1-out	5161	OUTDATED (1977) SIC	County data: Wholesale trade output
SIC_50&1-out	5162	Plastics materials & basic shapes	County data: Wholesale trade output
SIC_50&1-out	5169	Chemicals & allied products, nec	County data: Wholesale trade output
SIC_50&1-out	5171	Petroleum bulk stations & terminals	County data: Wholesale trade output
SIC_50&1-out	5172	Petroleum products, nec	County data: Wholesale trade output
SIC_50&1-out	5181	Beer and ale	County data: Wholesale trade output
SIC_50&1-out	5182	Wine and distilled beverages	County data: Wholesale trade output
SIC_50&1-out	5191	Farm supplies	County data: Wholesale trade output
SIC_50&1-out	5192	Books, periodicals, & newspapers	County data: Wholesale trade output
SIC_50&1-out	5193	Flowers & florists' supplies	County data: Wholesale trade output
SIC_50&1-out	5194	Tobacco and tobacco products	County data: Wholesale trade output
SIC_50&1-out	5198	Paints, varnishes, and supplies	County data: Wholesale trade output
SIC_50&1-out	5199	Nondurable goods, nec	County data: Wholesale trade output
SIC_52+-out	5211	Lumber and other building materials	County data: Rest of retail output
SIC_52+-out	5231	Paint, glass, and wallpaper stores	County data: Rest of retail output
SIC_52+-out	5251	Hardware stores	County data: Rest of retail output
SIC_52+-out	5261	Retail nurseries and garden stores	County data: Rest of retail output
SIC_52+-out	5271	Mobile home dealers	County data: Rest of retail output
SIC_52+-out	5311	Department stores	County data: Rest of retail output
SIC_52+-out	5331	Variety stores	County data: Rest of retail output
SIC_52+-out	5399	Misc. general merchandise stores	County data: Rest of retail output
SIC_52+-out	5411	Grocery stores	County data: Rest of retail output
SIC_52+-out	5421	Meat and fish markets	County data: Rest of retail output
SIC_52+-out	5431	Fruit and vegetable markets	County data: Rest of retail output
SIC_52+-out	5441	Candy, nut, and confectionery stores	County data: Rest of retail output
SIC_52+-out	5451	Dairy products stores	County data: Rest of retail output
SIC_52+-out	5461	Retail bakeries	County data: Rest of retail output
SIC_52+-out	5499	Miscellaneous food stores	County data: Rest of retail output
SIC_52+-out	5511	New and used car dealers	County data: Rest of retail output
SIC_52+-out	5521	Used car dealers	County data: Rest of retail output
SIC_52+-out	5531	Auto and home supply stores	County data: Rest of retail output
SIC_52+-out	5540	Gasoline Service Stations	County data: Rest of retail output
SIC_52+-out	5541	Gasoline service stations	County data: Rest of retail output
SIC_52+-out	5551	Boat dealers	County data: Rest of retail output
SIC_52+-out	5561	Recreational vehicle dealers	County data: Rest of retail output
SIC_52+-out	5571	Motorcycle dealers	County data: Rest of retail output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_52+-out	5599	Automotive dealers, nec	County data: Rest of retail output
SIC_52+-out	5611	Men's & boys' clothing stores	County data: Rest of retail output
SIC_52+-out	5621	Women's clothing stores	County data: Rest of retail output
SIC_52+-out	5632	Women's accessory & specialty stores	County data: Rest of retail output
SIC_52+-out	5641	Children's and infants' wear stores	County data: Rest of retail output
SIC_52+-out	5651	Family clothing stores	County data: Rest of retail output
SIC_52+-out	5661	Shoe stores	County data: Rest of retail output
SIC_52+-out	5699	Misc. apparel & accessory stores	County data: Rest of retail output
SIC_52+-out	5712	Furniture stores	County data: Rest of retail output
SIC_52+-out	5713	Floor covering stores	County data: Rest of retail output
SIC_52+-out	5714	Drapery and upholstery stores	County data: Rest of retail output
SIC_52+-out	5719	Misc. homefurnishings stores	County data: Rest of retail output
SIC_52+-out	5722	Household appliance stores	County data: Rest of retail output
SIC_52+-out	5731	Radio, TV, & electronic stores	County data: Rest of retail output
SIC_52+-out	5734	Computer and software stores	County data: Rest of retail output
SIC_52+-out	5735	Record & prerecorded tape stores	County data: Rest of retail output
SIC_52+-out	5736	Musical instrument stores	County data: Rest of retail output
SIC_58-out	5812	Eating places	County data: Eating and drinking output
SIC_58-out	5813	Drinking places	County data: Eating and drinking output
SIC_52+-out	5912	Drug stores and proprietary stores	County data: Rest of retail output
SIC_52+-out	5921	Liquor stores	County data: Rest of retail output
SIC_52+-out	5932	Used merchandise stores	County data: Rest of retail output
SIC_52+-out	5941	Sporting goods and bicycle shops	County data: Rest of retail output
SIC_52+-out	5942	Book stores	County data: Rest of retail output
SIC_52+-out	5943	Stationery stores	County data: Rest of retail output
SIC_52+-out	5944	Jewelry stores	County data: Rest of retail output
SIC_52+-out	5945	Hobby, toy, and game shops	County data: Rest of retail output
SIC_52+-out	5946	Camera & photographic supply stores	County data: Rest of retail output
SIC_52+-out	5947	Gift, novelty, and souvenir shops	County data: Rest of retail output
SIC_52+-out	5948	Luggage and leather goods stores	County data: Rest of retail output
SIC_52+-out	5949	Sewing, needlework, and piece goods	County data: Rest of retail output
SIC_52+-out	5961	Catalog and mail-order houses	County data: Rest of retail output
SIC_52+-out	5962	Merchandising machine operators	County data: Rest of retail output
SIC_52+-out	5963	Direct selling establishments	County data: Rest of retail output
SIC_52+-out	5983	Fuel oil dealers	County data: Rest of retail output
SIC_52+-out	5984	Liquefied petroleum gas dealers	County data: Rest of retail output
SIC_52+-out	5989	Fuel dealers, nec	County data: Rest of retail output
SIC_52+-out	5992	Florists	County data: Rest of retail output
SIC_52+-out	5993	Tobacco stores and stands	County data: Rest of retail output
SIC_52+-out	5994	News dealers and newsstands	County data: Rest of retail output
SIC_52+-out	5995	Optical goods stores	County data: Rest of retail output
SIC_52+-out	5999	Miscellaneous retail stores, nec	County data: Rest of retail output
SIC_60-out	6011	Federal reserve banks	County data: Depository institutions output
SIC_60-out	6019	Central reserve depository, nec	County data: Depository institutions output
SIC_60-out	6021	National commercial banks	County data: Depository institutions output
SIC_60-out	6022	State commercial banks	County data: Depository institutions output
SIC_60-out	6023	OUTDATED (1977) SIC	County data: Depository institutions output
SIC_60-out	6025	OUTDATED (1977) SIC	County data: Depository institutions output
SIC_60-out	6029	Commercial banks, nec	County data: Depository institutions output
SIC_60-out	6035	Federal savings institutions	County data: Depository institutions output
SIC_60-out	6036	Savings institutions, except federal	County data: Depository institutions output
SIC_60-out	6061	Federal credit unions	County data: Depository institutions output
SIC_60-out	6062	State credit unions	County data: Depository institutions output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_60-out	6081	Foreign bank & branches & agencies	County data: Depository institutions output
SIC_60-out	6082	Foreign trade & international banks	County data: Depository institutions output
SIC_60-out	6091	Nondeposit trust facilities	County data: Depository institutions output
SIC_60-out	6099	Functions related to deposit banking	County data: Depository institutions output
SIC_61&7-out	6111	Federal & fed.-sponsored credit	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6141	Personal credit institutions	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6153	Short-term business credit	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6159	Misc. business credit institutions	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6162	Mortgage bankers and correspondents	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6163	Loan brokers	County data: Nondepository; holding & invest offices output
SIC_62-out	6211	Security brokers and dealers	County data: Security and commodity brokers output
SIC_62-out	6221	Commodity contracts brokers, dealers	County data: Security and commodity brokers output
SIC_62-out	6231	Security and commodity exchanges	County data: Security and commodity brokers output
SIC_62-out	6282	Investment advice	County data: Security and commodity brokers output
SIC_62-out	6289	Security & commodity services, nec	County data: Security and commodity brokers output
SIC_63-out	6311	Life insurance	County data: Insurance carriers output
SIC_63-out	6321	Accident and health insurance	County data: Insurance carriers output
SIC_63-out	6324	Hospital and medical service plans	County data: Insurance carriers output
SIC_63-out	6331	Fire, marine, and casualty insurance	County data: Insurance carriers output
SIC_63-out	6351	Surety insurance	County data: Insurance carriers output
SIC_63-out	6361	Title insurance	County data: Insurance carriers output
SIC_63-out	6371	Pension, health, and welfare Funds	County data: Insurance carriers output
SIC_63-out	6399	Insurance carriers, nec	County data: Insurance carriers output
SIC_64-out	6411	Insurance agents, brokers, and service	County data: Insurance agents, brokers, & service output
SIC_65-out	6500	Real Estate	County data: Real estate output
SIC_65-out	6512	Nonresidential building operators	County data: Real estate output
SIC_65-out	6513	Apartment building operators	County data: Real estate output
SIC_65-out	6514	Dwelling operators, exc. apartments	County data: Real estate output
SIC_65-out	6515	Mobile home site operators	County data: Real estate output
SIC_65-out	6517	Railroad property lessors	County data: Real estate output
SIC_65-out	6519	Real property lessors, nec	County data: Real estate output
SIC_65-out	6531	Real estate agents and managers	County data: Real estate output
SIC_65-out	6541	Title abstract offices	County data: Real estate output
SIC_65-out	6552	Subdividers and developers, nec	County data: Real estate output
SIC_65-out	6553	Cemetery subdividers and developers	County data: Real estate output
SIC_61&7-out	6712	Bank holding companies	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6719	Holding companies, nec	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6722	Management investment, open-ended	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6723	OUTDATED (1977) SIC	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6726	Investment offices, nec	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6732	Educational, religious, etc. trusts	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6733	Trusts, nec	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6792	Oil royalty traders	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6794	Patent owners and lessors	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6798	Real estate investment trusts	County data: Nondepository; holding & invest offices output
SIC_61&7-out	6799	Investors, nec	County data: Nondepository; holding & invest offices output
SIC_70-out	7011	Hotels and motels	County data: Hotels and other lodging places output
SIC_70-out	7021	Rooming and boarding houses	County data: Hotels and other lodging places output
SIC_70-out	7032	Sporting and recreational camps	County data: Hotels and other lodging places output
SIC_70-out	7033	Trailer parks and campsites	County data: Hotels and other lodging places output
SIC_70-out	7041	Membership-basis organization hotels	County data: Hotels and other lodging places output
SIC_721&5out	7211	Power laundries, family & commercial	County data: Laundry, cleaning, and shoe repair output
SIC_721&5out	7212	Garment pressing & cleaners' agents	County data: Laundry, cleaning, and shoe repair output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_721&5out	7213	Linen supply	County data: Laundry, cleaning, and shoe repair output
SIC_721&5out	7215	Coin-operated laundries and cleaning	County data: Laundry, cleaning, and shoe repair output
SIC_721&5out	7216	Dry-cleaning plants, except rug	County data: Laundry, cleaning, and shoe repair output
SIC_721&5out	7217	Carpet and upholstery cleaning	County data: Laundry, cleaning, and shoe repair output
SIC_721&5out	7218	Industrial launderers	County data: Laundry, cleaning, and shoe repair output
SIC_721&5out	7219	Laundry and garment services, nec	County data: Laundry, cleaning, and shoe repair output
SIC_722&9out	7221	Photographic studios, portrait	County data: Personal services, nec output
SIC_723&4out	7231	Beauty shops	County data: Beauty and barber shops output
SIC_723&4out	7232	INVALID SIC	County data: Beauty and barber shops output
SIC_723&4out	7241	Barber shops	County data: Beauty and barber shops output
SIC_721&5out	7251	Shoe repair and shoeshine parlors	County data: Laundry, cleaning, and shoe repair output
SIC_726-out	7261	Funeral service and crematories	County data: Funeral service and crematories output
SIC_722&9out	7291	Tax return preparation services	County data: Personal services, nec output
SIC_722&9out	7299	Miscellaneous personal services, nec	County data: Personal services, nec output
SIC_731-out	7311	Advertising Agencies	County data: Advertising output
SIC_731-out	7312	Outdoor advertising services	County data: Advertising output
SIC_731-out	7313	Radio, TV, publisher representatives	County data: Advertising output
SIC_731-out	7316	INVALID SIC	County data: Advertising output
SIC_731-out	7319	Advertising, nec	County data: Advertising output
SIC_732+out	7322	Adjustment & collection services	County data: Miscellaneous business services output
SIC_732+out	7323	Credit reporting services	County data: Miscellaneous business services output
SIC_732+out	7331	Direct mail advertising services	County data: Miscellaneous business services output
SIC_732+out	7334	Photocopying & duplicating services	County data: Miscellaneous business services output
SIC_732+out	7335	Commercial photography	County data: Miscellaneous business services output
SIC_732+out	7336	Commercial art and graphic design	County data: Miscellaneous business services output
SIC_732+out	7338	Secretarial & court reporting	County data: Miscellaneous business services output
SIC_734-out	7342	Disinfecting & pest control services	County data: Services to buildings output
SIC_734-out	7349	Building maintenance services, nec	County data: Services to buildings output
SIC_735-out	7352	Medical equipment rental	County data: Misc. equipment rental & leasing output
SIC_735-out	7353	Heavy construction equipment rental	County data: Misc. equipment rental & leasing output
SIC_735-out	7359	Equipment rental & leasing, nec	County data: Misc. equipment rental & leasing output
SIC_736-out	7361	Employment agencies	County data: Personnel supply services output
SIC_736-out	7363	Help supply services	County data: Personnel supply services output
SIC_737-out	7371	Computer programming services	County data: Computer & data processing services output
SIC_737-out	7372	Prepackaged software	County data: Computer & data processing services output
SIC_737-out	7373	Computer integrated systems design	County data: Computer & data processing services output
SIC_737-out	7374	Data processing and preparation	County data: Computer & data processing services output
SIC_737-out	7375	Information retrieval services	County data: Computer & data processing services output
SIC_737-out	7376	Computer facilities management	County data: Computer & data processing services output
SIC_737-out	7377	Computer rental & leasing	County data: Computer & data processing services output
SIC_737-out	7378	Computer maintenance & repair	County data: Computer & data processing services output
SIC_737-out	7379	Computer related services, nec	County data: Computer & data processing services output
SIC_732+out	7381	Detective & armored car services	County data: Miscellaneous business services output
SIC_732+out	7382	Security systems services	County data: Miscellaneous business services output
SIC_732+out	7383	News syndicates	County data: Miscellaneous business services output
SIC_732+out	7384	Photofinishing laboratories	County data: Miscellaneous business services output
SIC_732+out	7389	Business services, nec	County data: Miscellaneous business services output
SIC_73-out	7391	OUTDATED (1977) SIC	County data: Business services output
SIC_73-out	7399	OUTDATED (1977) SIC	County data: Business services output
SIC_751-out	7513	Truck rental and leasing, no drivers	County data: Automotive rentals, without drivers output
SIC_751-out	7514	Passenger car rental	County data: Automotive rentals, without drivers output
SIC_751-out	7515	Passenger car leasing	County data: Automotive rentals, without drivers output
SIC_751-out	7519	Utility trailer rental	County data: Automotive rentals, without drivers output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_752-4out	7521	Automobile parking	County data: Automobile parking, repair, & services output
SIC_752-4out	7530	Automotive Repair Shops	County data: Automobile parking, repair, & services output
SIC_752-4out	7532	Top & body repair & paint shops	County data: Automobile parking, repair, & services output
SIC_752-4out	7533	Auto exhaust system repair shops	County data: Automobile parking, repair, & services output
SIC_752-4out	7534	Tire retreading and repair shops	County data: Automobile parking, repair, & services output
SIC_752-4out	7535	OUTDATED (1977) SIC	County data: Automobile parking, repair, & services output
SIC_752-4out	7536	Automotive glass replacement shops	County data: Automobile parking, repair, & services output
SIC_752-4out	7537	Automotive transmission repair shops	County data: Automobile parking, repair, & services output
SIC_752-4out	7538	General automotive repair shops	County data: Automobile parking, repair, & services output
SIC_752-4out	7539	Automotive repair shops, nec	County data: Automobile parking, repair, & services output
SIC_752-4out	7542	Carwashes	County data: Automobile parking, repair, & services output
SIC_752-4out	7549	Automotive services, nec	County data: Automobile parking, repair, & services output
SIC_72&6out	7612	INVALID SIC	County data: Personal and miscellaneous services output
SIC_762-out	7622	Radio and television repair	County data: Electrical repair shops output
SIC_762-out	7623	Refrigeration service and repair	County data: Electrical repair shops output
SIC_762-out	7629	Electrical repair shops, nec	County data: Electrical repair shops output
SIC_763-4out	7631	Watch, clock, and jewelry repair	County data: Watch, jewelry, & furniture repair output
SIC_763-4out	7641	Reupholstery and furniture repair	County data: Watch, jewelry, & furniture repair output
SIC_769-out	7692	Welding repair	County data: Miscellaneous repair services output
SIC_769-out	7694	Armature rewinding shops	County data: Miscellaneous repair services output
SIC_769-out	7699	Repair services, nec	County data: Miscellaneous repair services output
SIC_781-3out	7812	Motion picture & video production	County data: Motion pictures output
SIC_781-3out	7819	Services allied to motion pictures	County data: Motion pictures output
SIC_781-3out	7822	Motion picture and tape distribution	County data: Motion pictures output
SIC_781-3out	7829	Motion picture distribution services	County data: Motion pictures output
SIC_781-3out	7832	Motion picture theaters, exc. drive-in	County data: Motion pictures output
SIC_781-3out	7833	Drive-in motion picture theaters	County data: Motion pictures output
SIC_784-out	7841	Video tape rental	County data: Video tape rental output
SIC_791&9out	7911	Dance studios, schools, and halls	County data: Amusement & recreation services, nec output
SIC_792-out	7922	Theatrical producers and services	County data: Producers, orchestras, & entertainers output
SIC_792-out	7929	Entertainers & entertainment groups	County data: Producers, orchestras, & entertainers output
SIC_793-out	7933	Bowling centers	County data: Bowling centers output
SIC_794-out	7941	Sports clubs, managers, & promoters	County data: Commercial sports output
SIC_794-out	7948	Racing, including track operation	County data: Commercial sports output
SIC_791&9out	7991	Physical fitness facilities	County data: Amusement & recreation services, nec output
SIC_791&9out	7992	Public golf courses	County data: Amusement & recreation services, nec output
SIC_791&9out	7993	Coin-operated amusement devices	County data: Amusement & recreation services, nec output
SIC_791&9out	7996	Amusement parks	County data: Amusement & recreation services, nec output
SIC_791&9out	7997	Membership sports & recreation clubs	County data: Amusement & recreation services, nec output
SIC_791&9out	7999	Amusement and recreation, nec	County data: Amusement & recreation services, nec output
SIC_801-4out	8011	Offices & clinics of medical doctors	County data: Offices of health practitioners output
SIC_801-4out	8021	Offices and clinics of dentists	County data: Offices of health practitioners output
SIC_801-4out	8031	Offices of osteopathic physicians	County data: Offices of health practitioners output
SIC_801-4out	8041	Offices and clinics of chiropractors	County data: Offices of health practitioners output
SIC_801-4out	8042	Offices and clinics of optometrists	County data: Offices of health practitioners output
SIC_801-4out	8043	Offices and clinics of podiatrists	County data: Offices of health practitioners output
SIC_801-4out	8049	Offices of health practitioners, nec	County data: Offices of health practitioners output
SIC_805-out	8051	Skilled nursing care facilities	County data: Nursing and personal care facilities output
SIC_805-out	8052	Intermediate care facilities	County data: Nursing and personal care facilities output
SIC_805-out	8059	Nursing and personal care, nec	County data: Nursing and personal care facilities output
SIC_806-out	8062	General medical & surgical hospitals	County data: Hospitals output
SIC_806-out	8063	Psychiatric hospitals	County data: Hospitals output
SIC_806-out	8069	Specialty hospitals exc. psychiatric	County data: Hospitals output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_807-9out	8071	Medical laboratories	County data: Health services, nec output
SIC_807-9out	8072	Dental laboratories	County data: Health services, nec output
SIC_807-9out	8082	Home health care services	County data: Health services, nec output
SIC_807-9out	8092	Kidney dialysis centers	County data: Health services, nec output
SIC_807-9out	8093	Specialty outpatient clinics, nec	County data: Health services, nec output
SIC_807-9out	8099	Health and allied services, nec	County data: Health services, nec output
SIC_81-out	8111	Legal services	County data: Legal services output
SIC_82-out	8211	Elementary and secondary schools	County data: Educational services output
SIC_82-out	8221	Colleges and universities	County data: Educational services output
SIC_82-out	8222	Junior colleges	County data: Educational services output
SIC_82-out	8231	Libraries	County data: Educational services output
SIC_82-out	8243	Data processing schools	County data: Educational services output
SIC_82-out	8244	Business and secretarial schools	County data: Educational services output
SIC_82-out	8249	Vocational schools, nec	County data: Educational services output
SIC_82-out	8299	Schools & educational services, nec	County data: Educational services output
SIC_832&9out	8322	Individual and family services	County data: Individual & misc. social services output
SIC_833-out	8331	Job training and related services	County data: Job training and related services output
SIC_835-out	8351	Child day care services	County data: Child day care services output
SIC_836-out	8361	Residential care	County data: Residential care output
SIC_832&9out	8399	Social Services, nec	County data: Individual & misc. social services output
SIC_84-out	8412	Museums and art galleries	County data: Museums, botanical, zoological gardens output
SIC_84-out	8422	Botanical and Zoological gardens	County data: Museums, botanical, zoological gardens output
SIC_86-out	8611	Business associations	County data: Membership organizations output
SIC_86-out	8621	Professional organizations	County data: Membership organizations output
SIC_86-out	8631	Labor organizations	County data: Membership organizations output
SIC_86-out	8641	Civic and social associations	County data: Membership organizations output
SIC_86-out	8651	Political organizations	County data: Membership organizations output
SIC_86-out	8661	Religious organizations	County data: Membership organizations output
SIC_86-out	8699	Membership organizations, nec	County data: Membership organizations output
SIC_81+-out	8700	Engineering & Management Services	County data: Legal, eng. & mgmnt, and misc. serv output
SIC_871-out	8711	Engineering services	County data: Engineering & architectural services output
SIC_871-out	8712	Architectural services	County data: Engineering & architectural services output
SIC_871-out	8713	Surveying services	County data: Engineering & architectural services output
SIC_872+-out	8721	Accounting, auditing, & bookkeeping	County data: Accounting, auditing, & other services output
SIC_873-out	8731	Commercial physical research	County data: Research and testing services output
SIC_873-out	8732	Commercial nonphysical research	County data: Research and testing services output
SIC_873-out	8733	Noncommercial research organizations	County data: Research and testing services output
SIC_873-out	8734	Testing laboratories	County data: Research and testing services output
SIC_874-out	8741	Management services	County data: Management and public relations output
SIC_874-out	8742	Management consulting services	County data: Management and public relations output
SIC_874-out	8743	Public relations services	County data: Management and public relations output
SIC_874-out	8744	Facilities support services	County data: Management and public relations output
SIC_874-out	8748	Business consulting, nec	County data: Management and public relations output
SIC_88-out	8811	Private households	County data: Private household output
SIC_872+-out	8911	OUTDATED (1977) SIC	County data: Accounting, auditing, & other services output
SIC_872+-out	8922	OUTDATED (1977) SIC	County data: Accounting, auditing, & other services output
SIC_872+-out	8999	Services, nec	County data: Accounting, auditing, & other services output
SIC_91-97out	9111	Executive offices	County data: Government output
SIC_91-97out	9121	Legislative bodies	County data: Government output
SIC_91-97out	9131	Executive and legislative combined	County data: Government output
SIC_91-97out	9199	General government, nec	County data: Government output
SIC_91-97out	9211	Courts	County data: Government output
SIC_91-97out	9221	Police protection	County data: Government output

Table II-2 (continued)

GROWTH PARAMETER	SIC CODE	SIC CODE DESCRIPTION	PARAMETER COMMENT
SIC_91-97out	9222	Legal counsel and prosecution	County data: Government output
SIC_91-97out	9223	Correctional institutions	County data: Government output
SIC_91-97out	9224	Fire protection	County data: Government output
SIC_91-97out	9229	Public order and safety, nec	County data: Government output
SIC_91-97out	9311	Finance, taxation, & monetary policy	County data: Government output
SIC_91-97out	9411	Admin. of educational programs	County data: Government output
SIC_91-97out	9431	Admin. of public health programs	County data: Government output
SIC_91-97out	9441	Admin. of social & manpower programs	County data: Government output
FED_MIL-out	9451	Administration of veterans' affairs	County data: Federal military output
SIC_91-97out	9511	Air, water, & solid waste management	County data: Government output
SIC_91-97out	9512	Land, mineral, wildlife conservation	County data: Government output
SIC_91-97out	9531	Housing programs	County data: Government output
SIC_91-97out	9532	Urban and community development	County data: Government output
SIC_91-97out	9611	Admin. of general economic programs	County data: Government output
SIC_91-97out	9621	Regulation, admin. of transportation	County data: Government output
SIC_91-97out	9631	Regulation, admin. of utilities	County data: Government output
SIC_91-97out	9641	Regulation of agricultural marketing	County data: Government output
SIC_91-97out	9651	Regulation misc. commercial sectors	County data: Government output
FED_CIVL-out	9661	Space research and technology	County data: Federal civilian output
FED_MIL-out	9711	National security	County data: Federal military output
FED_CIVL-out	9721	International affairs	County data: Federal civilian output
TOTAL-out	9999	Nonclassifiable establishments	County data: Total output (bil 92\$)

**Table II-3. Unique List of Fuel Projections Categories
Incorporated Into REM/AEO Growth Parameters**

ADJUSTMENT CODE	DESCRIPTION
C1	adjusted by AEO Commercial Coal
C2	adjusted by AEO Commercial Distillate
C3	adjusted by AEO Commercial LPG
C4	adjusted by AEO Commercial Motor Gasoline
C5	adjusted by AEO Commercial Natural Gas
C6	adjusted by AEO Commercial Renewables
C7	adjusted by AEO Commercial Residual
C8	adjusted by AEO Commercial Total Energy
I1	adjusted by AEO Chemicals Natural Gas
I2	adjusted by AEO Chemicals Total Energy
I3	adjusted by AEO Cement Distillate
I4	adjusted by AEO Cement Natural Gas
I5	adjusted by AEO Cement Residual
I6	adjusted by AEO Cement Steam Coal
I7	adjusted by AEO Food Natural Gas
I8	adjusted by AEO Food Residual
I9	adjusted by AEO Iron&Steel Blast Furnace and Coke Oven Gas
I10	adjusted by AEO Iron&Steel Natural Gas
I11	adjusted by AEO Iron&Steel Other Petroleum
I12	adjusted by AEO Durable Metals Natural Gas
I13	adjusted by AEO Mining Distillate
I14	adjusted by AEO Mining Natural Gas
I15	adjusted by AEO Mining Other Petroleum
I16	adjusted by AEO Mining Residual
I17	adjusted by AEO Mining Petroleum
I18	adjusted by AEO Mining Total Energy
I19	adjusted by AEO Other Manufacturing Distillate
I20	adjusted by AEO Other Manufacturing Natural Gas
I21	adjusted by AEO Other Manufacturing Residual
I22	adjusted by AEO Other Manufacturing Total Energy
I23	adjusted by AEO Paper Natural Gas
I24	adjusted by AEO Refining Distillate
I25	adjusted by AEO Refining LPG
I26	adjusted by AEO Refining Natural Gas
I27	adjusted by AEO Refining Residual
I28	adjusted by AEO Refining Still Gas
I29	adjusted by AEO Refining Total Energy
I30	adjusted by AEO Refining Total Petroleum
I31	adjusted by AEO Total Industrial Distillate
I32	adjusted by AEO Total Industrial LPG
I33	adjusted by AEO Total Industrial Metallurgical Coal
I34	adjusted by AEO Total Industrial Motor Gasoline
I35	adjusted by AEO Total Industrial Natural Gas
I36	adjusted by AEO Total Industrial Other Petroleum

Table II-3 (continued)

ADJUSTMENT CODE	DESCRIPTION
I37	adjusted by AEO Total Industrial Renewables
I38	adjusted by AEO Total Industrial Residual
I39	adjusted by AEO Total Industrial Steam Coal
I40	adjusted by AEO Total Industrial Total Coal
I41	adjusted by AEO Total Industrial Total Energy
R1	adjusted by AEO Residential Distillate
R2	adjusted by AEO Residential LPG
R3	adjusted by AEO Residential Natural Gas
R4	adjusted by AEO Residential Renewables
T1	adjusted by AEO Total Renewables
T2	adjusted by AEO Total Energy

Table II-4. Fuel Combustion Point Source Growth Parameter Assignments

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
NONGAS_UTIL	10100217	4911	External Combustion Boilers; Electric Generation; Bituminous/Subbituminous Coal; Atmospheric Fluidized Bed Combustion: Bubbling Bed (Bituminous Coal)	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100301	4911	External Combustion Boilers; Electric Generation; Lignite; Pulverized Coal: Dry Bottom, Wall Fired	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100401	4911	External Combustion Boilers; Electric Generation; Residual Oil; Grade 6 Oil: Normal Firing	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100401	4931	External Combustion Boilers; Electric Generation; Residual Oil; Grade 6 Oil: Normal Firing	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100404	4911	External Combustion Boilers; Electric Generation; Residual Oil; Grade 6 Oil: Tangential Firing	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100406	4911	External Combustion Boilers; Electric Generation; Residual Oil; Grade 5 Oil: Tangential Firing	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100406	4931	External Combustion Boilers; Electric Generation; Residual Oil; Grade 5 Oil: Tangential Firing	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100501	4911	External Combustion Boilers; Electric Generation; Distillate Oil; Grades 1 and 2 Oil	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100501	4931	External Combustion Boilers; Electric Generation; Distillate Oil; Grades 1 and 2 Oil	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100504	4911	External Combustion Boilers; Electric Generation; Distillate Oil; Grade 4 Oil: Normal Firing	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
CATEGORY23	10100601	4911	External Combustion Boilers; Electric Generation; Natural Gas; Boilers > 100 Million Btu/hr except Tangential	#23 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY22	10100601	4931	External Combustion Boilers; Electric Generation; Natural Gas; Boilers > 100 Million Btu/hr except Tangential	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY22	10100602	4911	External Combustion Boilers; Electric Generation; Natural Gas; Boilers < 100 Million Btu/hr except Tangential	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY22	10100602	4931	External Combustion Boilers; Electric Generation; Natural Gas; Boilers < 100 Million Btu/hr except Tangential	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY22	10100604	4911	External Combustion Boilers; Electric Generation; Natural Gas; Tangentially Fired Units	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
NONGAS_UTIL	10100902	4911	External Combustion Boilers; Electric Generation; Wood/Bark Waste; Wood/Bark Fired Boiler	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100903	4911	External Combustion Boilers; Electric Generation; Wood/Bark Waste; Wood-fired Boiler	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10100903	4931	External Combustion Boilers; Electric Generation; Wood/Bark Waste; Wood-fired Boiler	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10101201	4911	External Combustion Boilers; Electric Generation; Solid Waste; Specify Waste Material in Comments	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10101202	4931	External Combustion Boilers; Electric Generation; Solid Waste; Refuse Derived Fuel	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_372&6I39	10200101	3728	External Combustion Boilers; Industrial; Anthracite Coal; Pulverized Coal	County data: SIC_372&6out adjust by AEO Ind Scoal
SIC_206-I39	10200204	2063	External Combustion Boilers; Industrial; Bituminous/Subbituminous Coal; Spreader Stoker	County data: SIC_206-out adjust by AEO Ind Scoal
NONGAS_UTIL	10200217	4931	External Combustion Boilers; Industrial; Bituminous/Subbituminous Coal; Atmospheric Fluidized Bed Combustion: Bubbling Bed (Bituminous Coal)	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_281&6I39	10200219	2819	External Combustion Boilers; Industrial; Bituminous/Subbituminous Coal; Cogeneration	County data: SIC_281&6out adjust by AEO Ind Scoal
NONGAS_UTIL	10200219	4931	External Combustion Boilers; Industrial; Bituminous/Subbituminous Coal; Cogeneration	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_131&2I39	10200307	1311	External Combustion Boilers; Industrial; Lignite; Cogeneration	County data: SIC_131&2out adjust by AEO Ind Scoal
SIC_7-I38	10200401	723	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_7-out adjust by AEO Ind Resid
SIC_10-I38	10200401	1061	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_10-out adjust by AEO Ind Resid
SIC_131&2I38	10200401	1311	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_131&2out adjust by AEO Ind Resid
SIC_202-I38	10200401	2023	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_202-out adjust by AEO Ind Resid
SIC_203-I38	10200401	2033	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_203-out adjust by AEO Ind Resid
SIC_203-I38	10200401	2034	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_203-out adjust by AEO Ind Resid
SIC_203-I38	10200401	2038	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_203-out adjust by AEO Ind Resid
SIC_204&7I38	10200401	2043	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_204&7out adjust by AEO Ind Resid
SIC_204&7I38	10200401	2048	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_204&7out adjust by AEO Ind Resid
SIC_206-I38	10200401	2063	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_206-out adjust by AEO Ind Resid
SIC_206-I38	10200401	2066	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_206-out adjust by AEO Ind Resid
SIC_204&7I38	10200401	2077	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_204&7out adjust by AEO Ind Resid
SIC_208-I38	10200401	2082	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_208-out adjust by AEO Ind Resid
SIC_244&9I38	10200401	2499	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_244&9out adjust by AEO Ind Resid
SIC_261-3I38	10200401	2631	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_261-3out adjust by AEO Ind Resid
SIC_282-I38	10200401	2821	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_282-out adjust by AEO Ind Resid
SIC_287-I38	10200401	2879	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_287-out adjust by AEO Ind Resid
SIC_291-I38	10200401	2911	External Combustion Boilers; Industrial; Residual Oil; Grade 6 Oil	County data: SIC_291-out adjust by AEO Ind Resid

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 353-135	10200603	3533	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 353-out adjust by AEO Ind Ngas
SIC 354-135	10200603	3547	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 354-out adjust by AEO Ind Ngas
SIC 355-135	10200603	3551	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 355-out adjust by AEO Ind Ngas
SIC 355-135	10200603	3559	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 355-out adjust by AEO Ind Ngas
SIC 366-135	10200603	3663	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 366-out adjust by AEO Ind Ngas
SIC 366-135	10200603	3669	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 366-out adjust by AEO Ind Ngas
SIC 367-135	10200603	3672	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 367-out adjust by AEO Ind Ngas
SIC 367-135	10200603	3674	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 367-out adjust by AEO Ind Ngas
SIC 367-135	10200603	3679	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 367-out adjust by AEO Ind Ngas
SIC 371-135	10200603	3711	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 371-out adjust by AEO Ind Ngas
SIC 371-135	10200603	3714	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 371-out adjust by AEO Ind Ngas
SIC 372&6135	10200603	3721	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 372&6135	10200603	3724	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 372&6135	10200603	3728	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 373-135	10200603	3731	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 373-out adjust by AEO Ind Ngas
SIC 372&6135	10200603	3761	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 372&6135	10200603	3769	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 375&9135	10200603	3795	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 375&9out adjust by AEO Ind Ngas
SIC 382-135	10200603	3822	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 382-out adjust by AEO Ind Ngas
SIC 382-135	10200603	3829	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 382-out adjust by AEO Ind Ngas
SIC 384-135	10200603	3841	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 384-out adjust by AEO Ind Ngas
SIC 384-135	10200603	3842	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 384-out adjust by AEO Ind Ngas
SIC 386-135	10200603	3861	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 386-out adjust by AEO Ind Ngas
SIC 393+135	10200603	3951	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 393+-out adjust by AEO Ind Ngas
SIC 42-135	10200603	4226	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 42-out adjust by AEO Ind Ngas
SIC 44-135	10200603	4491	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 44-out adjust by AEO Ind Ngas
SIC 46-135	10200603	4612	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 46-out adjust by AEO Ind Ngas
CATEGORY22	10200603	4911	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	10200603	4925	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC 494+-135	10200603	4952	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 50&1-135	10200603	5012	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 52+-135	10200603	5541	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 52+-out adjust by AEO Ind Ngas
SIC 61&7-135	10200603	6733	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 61&7-out adjust by AEO Ind Ngas
SIC 721&5135	10200603	7218	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 721&5out adjust by AEO Ind Ngas
SIC 732+-135	10200603	7384	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 732+-out adjust by AEO Ind Ngas
SIC 791&9135	10200603	7996	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 791&9out adjust by AEO Ind Ngas
SIC 806-135	10200603	8062	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 806-135	10200603	8063	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 82-135	10200603	8211	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 82-out adjust by AEO Ind Ngas
SIC 82-135	10200603	8221	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 82-out adjust by AEO Ind Ngas
SIC 873-135	10200603	8731	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 873-out adjust by AEO Ind Ngas
SIC 91-97135	10200603	9211	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: SIC 91-97out adjust by AEO Ind Ngas
FED_MIL-135	10200603	9711	External Combustion Boilers; Industrial; Natural Gas; < 10 Million Btu/hr	County data: FED_MIL-out adjust by AEO Ind Ngas
SIC 131&2135	10200604	1311	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 203-135	10200604	2034	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	County data: SIC 203-out adjust by AEO Ind Ngas
SIC 204&7135	10200604	2043	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	County data: SIC 204&7out adjust by AEO Ind Ngas
SIC 204&7135	10200604	2046	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	County data: SIC 204&7out adjust by AEO Ind Ngas
SIC 206-135	10200604	2066	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	County data: SIC 206-out adjust by AEO Ind Ngas
SIC 261-3135	10200604	2631	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	County data: SIC 261-3out adjust by AEO Ind Ngas
SIC 295&9135	10200604	2951	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	County data: SIC 295&9out adjust by AEO Ind Ngas
CATEGORY22	10200604	4911	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
CATEGORY50	10200604	4923	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY22	10200604	4931	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY50	10200604	4939	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC_806-135	10200604	8062	External Combustion Boilers; Industrial; Natural Gas; Cogeneration	County data: SIC_806-out adjust by AEO Ind Ngas
SIC_291-128	10200701	2911	External Combustion Boilers; Industrial; Process Gas; Petroleum Refinery Gas	County data: SIC_291-out adjust by AEO Refin Sgas
SIC_331-19	10200704	3312	External Combustion Boilers; Industrial; Process Gas; Blast Furnace Gas	County data: SIC_331-out adjust by AEO Iron Coke
SIC_494+-141	10200710	4953	External Combustion Boilers; Industrial; Process Gas; Cogeneration	County data: SIC_494+-out adjust by AEO Ind Total
SIC_131&2141	10200799	1311	External Combustion Boilers; Industrial; Process Gas; Other: Specify in Comments	County data: SIC_131&2out adjust by AEO Ind Total
SIC_281&6141	10200799	2869	External Combustion Boilers; Industrial; Process Gas; Other: Specify in Comments	County data: SIC_281&6out adjust by AEO Ind Total
SIC_291-141	10200799	2911	External Combustion Boilers; Industrial; Process Gas; Other: Specify in Comments	County data: SIC_291-out adjust by AEO Ind Total
SIC_494+-141	10200799	4952	External Combustion Boilers; Industrial; Process Gas; Other: Specify in Comments	County data: SIC_494+-out adjust by AEO Ind Total
SIC_494+-141	10200799	4953	External Combustion Boilers; Industrial; Process Gas; Other: Specify in Comments	County data: SIC_494+-out adjust by AEO Ind Total
SIC_131&2139	10200804	1311	External Combustion Boilers; Industrial; Coke; Cogeneration	County data: SIC_131&2out adjust by AEO Ind Scoal
NONGAS_UTIL	10200804	4931	External Combustion Boilers; Industrial; Coke; Cogeneration	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_242-137	10200902	2421	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood/Bark-fired Boiler (> 50,000 Lb Steam)	County data: SIC_242-out adjust by AEO Ind Renew
SIC_244&9137	10200902	2491	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood/Bark-fired Boiler (> 50,000 Lb Steam)	County data: SIC_244&9out adjust by AEO Ind Renew
SIC_244&9137	10200902	2493	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood/Bark-fired Boiler (> 50,000 Lb Steam)	County data: SIC_244&9out adjust by AEO Ind Renew
SIC_244&9137	10200902	2499	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood/Bark-fired Boiler (> 50,000 Lb Steam)	County data: SIC_244&9out adjust by AEO Ind Renew
SIC_261-3137	10200902	2611	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood/Bark-fired Boiler (> 50,000 Lb Steam)	County data: SIC_261-3out adjust by AEO Ind Renew
NONGAS_UTIL	10200902	4911	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood/Bark-fired Boiler (> 50,000 Lb Steam)	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_203-137	10200903	2033	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (> 50,000 Lb Steam)	County data: SIC_203-out adjust by AEO Ind Renew
SIC_242-137	10200903	2421	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (> 50,000 Lb Steam)	County data: SIC_242-out adjust by AEO Ind Renew
SIC_243-137	10200903	2436	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (> 50,000 Lb Steam)	County data: SIC_243-out adjust by AEO Ind Renew
SIC_244&9137	10200903	2493	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (> 50,000 Lb Steam)	County data: SIC_244&9out adjust by AEO Ind Renew
SIC_244&9137	10200903	2499	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (> 50,000 Lb Steam)	County data: SIC_244&9out adjust by AEO Ind Renew
SIC_308-137	10200903	3083	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (> 50,000 Lb Steam)	County data: SIC_308-out adjust by AEO Ind Renew
NONGAS_UTIL	10200903	4911	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (> 50,000 Lb Steam)	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_243-137	10200904	2431	External Combustion Boilers; Industrial; Wood/Bark Waste; Bark-fired Boiler (< 50,000 Lb Steam)	County data: SIC_243-out adjust by AEO Ind Renew
SIC_242-137	10200905	2421	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood/Bark-fired Boiler (< 50,000 Lb Steam)	County data: SIC_242-out adjust by AEO Ind Renew
SIC_242-137	10200906	2421	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (< 50,000 Lb Steam)	County data: SIC_242-out adjust by AEO Ind Renew
SIC_243-137	10200906	2439	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (< 50,000 Lb Steam)	County data: SIC_243-out adjust by AEO Ind Renew
SIC_244&9137	10200906	2492	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler (< 50,000 Lb Steam)	County data: SIC_244&9out adjust by AEO Ind Renew
SIC_242-137	10200907	2421	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood Cogeneration	County data: SIC_242-out adjust by AEO Ind Renew
NONGAS_UTIL	10200907	4911	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood Cogeneration	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10200907	4931	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood Cogeneration	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_491&3137	10200907	4939	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood Cogeneration	County data: SIC_491&3out adjust by AEO Ind Renew
SIC_01&02132	10201001	181	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_01&02out adjust by AEO Ind LPG
SIC_7-132	10201001	723	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_7-out adjust by AEO Ind LPG
SIC_15-17132	10201001	1611	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_15-17out adjust by AEO Ind LPG
SIC_15-17132	10201001	1721	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_15-17out adjust by AEO Ind LPG
SIC_205-132	10201001	2051	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_205-out adjust by AEO Ind LPG
SIC_204&7132	10201001	2077	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_204&7out adjust by AEO Ind LPG
SIC_209-132	10201001	2099	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_209-out adjust by AEO Ind LPG
SIC_227-132	10201001	2273	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_227-out adjust by AEO Ind LPG
SIC_242-132	10201001	2421	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_242-out adjust by AEO Ind LPG
SIC_242-132	10201001	2426	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_242-out adjust by AEO Ind LPG
SIC_245-132	10201001	2451	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_245-out adjust by AEO Ind LPG
SIC_25-132	10201001	2500	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_25-out adjust by AEO Ind LPG
SIC_251-132	10201001	2511	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_251-out adjust by AEO Ind LPG
SIC_261-3132	10201001	2621	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_261-3out adjust by AEO Ind LPG
SIC_265-132	10201001	2653	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Butane	County data: SIC_265-out adjust by AEO Ind LPG

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 131&2132	10201002	1311	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 131&2out adjust by AEO Ind LPG
SIC 14-132	10201002	1442	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 14-out adjust by AEO Ind LPG
SIC 201-132	10201002	2011	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 201-out adjust by AEO Ind LPG
SIC 201-132	10201002	2015	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 201-out adjust by AEO Ind LPG
SIC 202-132	10201002	2022	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 202-out adjust by AEO Ind LPG
SIC 203-132	10201002	2032	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 203-out adjust by AEO Ind LPG
SIC 204&7132	10201002	2044	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 204&7out adjust by AEO Ind LPG
SIC 209-132	10201002	2099	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 209-out adjust by AEO Ind LPG
SIC 244&9132	10201002	2491	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 244&9out adjust by AEO Ind LPG
SIC 272-132	10201002	2720	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 272-out adjust by AEO Ind LPG
SIC 289-132	10201002	2893	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 289-out adjust by AEO Ind LPG
SIC 295&9132	10201002	2951	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 295&9out adjust by AEO Ind LPG
SIC 331-132	10201002	3317	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 331-out adjust by AEO Ind LPG
SIC 344-132	10201002	3444	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 344-out adjust by AEO Ind LPG
SIC 346-132	10201002	3463	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 346-out adjust by AEO Ind LPG
SIC 347-132	10201002	3471	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 347-out adjust by AEO Ind LPG
SIC 355-132	10201002	3556	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 355-out adjust by AEO Ind LPG
SIC 373-132	10201002	3731	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 373-out adjust by AEO Ind LPG
SIC 372&6132	10201002	3761	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 372&6out adjust by AEO Ind LPG
SIC 42-132	10201002	4212	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 42-out adjust by AEO Ind LPG
SIC 871-132	10201002	8711	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 871-out adjust by AEO Ind LPG
SIC 873-132	10201002	8734	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 873-out adjust by AEO Ind LPG
FED_MIL-132	10201002	9711	External Combustion Boilers; Industrial; Liquefied Petroleum Gas (LPG); Propane	County data: FED_MIL-out adjust by AEO Ind LPG
SIC 208-137	10201201	2085	External Combustion Boilers; Industrial; Solid Waste; Specify Waste Material in Comments	County data: SIC 208-out adjust by AEO Ind Renew
SIC 331-137	10201201	3315	External Combustion Boilers; Industrial; Solid Waste; Specify Waste Material in Comments	County data: SIC 331-out adjust by AEO Ind Renew
SIC 372&6137	10201201	3761	External Combustion Boilers; Industrial; Solid Waste; Specify Waste Material in Comments	County data: SIC 372&6out adjust by AEO Ind Renew
SIC 347-137	10201202	3479	External Combustion Boilers; Industrial; Solid Waste; Refuse Derived Fuel	County data: SIC 347-out adjust by AEO Ind Renew
SIC 10-136	10201302	1061	External Combustion Boilers; Industrial; Liquid Waste; Waste Oil	County data: SIC 10-out adjust by AEO Ind OthPet
SIC 291-136	10201302	2911	External Combustion Boilers; Industrial; Liquid Waste; Waste Oil	County data: SIC 291-out adjust by AEO Ind OthPet
SIC 281&6135	10201401	2819	External Combustion Boilers; Industrial; CO Boiler; Natural Gas	County data: SIC 281&6out adjust by AEO Ind Ngas
SIC 291-135	10201401	2911	External Combustion Boilers; Industrial; CO Boiler; Natural Gas	County data: SIC 291-out adjust by AEO Ind Ngas
SIC 291-138	10201404	2911	External Combustion Boilers; Industrial; CO Boiler; Residual Oil	County data: SIC 291-out adjust by AEO Ind Resid
FED_MIL-C1	10300102	9711	External Combustion Boilers; Commercial/Institutional; Anthracite Coal; Traveling Grate (Overfeed) Stoker	County data: FED_MIL-out adjust by AEO Comm Coal
SIC 208-C7	10300401	2082	External Combustion Boilers; Commercial/Institutional; Residual Oil; Grade 6 Oil	County data: SIC 208-out adjust by AEO Comm Resid
SIC 91-97C7	10300401	9223	External Combustion Boilers; Commercial/Institutional; Residual Oil; Grade 6 Oil	County data: SIC 91-97out adjust by AEO Comm Resid
SIC 494+-C7	10300402	4961	External Combustion Boilers; Commercial/Institutional; Residual Oil; 10-100 Million Btu/hr **	County data: SIC 494+-out adjust by AEO Comm Resid
FED_MIL-C7	10300402	9711	External Combustion Boilers; Commercial/Institutional; Residual Oil; 10-100 Million Btu/hr **	County data: FED_MIL-out adjust by AEO Comm Resid
SIC 721&5C7	10300404	7211	External Combustion Boilers; Commercial/Institutional; Residual Oil; Grade 5 Oil	County data: SIC 721&5out adjust by AEO Comm Resid
SIC 91-97C7	10300404	9223	External Combustion Boilers; Commercial/Institutional; Residual Oil; Grade 5 Oil	County data: SIC 91-97out adjust by AEO Comm Resid
SIC 01&02C2	10300501	174	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 01&02out adjust by AEO Comm Dist
SIC 202-C2	10300501	2022	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 202-out adjust by AEO Comm Dist
SIC 208-C2	10300501	2082	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 208-out adjust by AEO Comm Dist
SIC 295&9C2	10300501	2951	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 295&9out adjust by AEO Comm Dist
NONGAS_UTIL	10300501	4911	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	10300501	4931	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC 494+-C2	10300501	4952	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 494+-out adjust by AEO Comm Dist
SIC 50&1-C2	10300501	5171	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 50&1-out adjust by AEO Comm Dist
SIC 52+-C2	10300501	5541	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 52+-out adjust by AEO Comm Dist
SIC 806-C2	10300501	8062	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 806-out adjust by AEO Comm Dist
SIC 806-C2	10300501	8069	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 806-out adjust by AEO Comm Dist
SIC 82-C2	10300501	8221	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 82-out adjust by AEO Comm Dist
SIC 91-97C2	10300501	9223	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: SIC 91-97out adjust by AEO Comm Dist
FED_MIL-C2	10300501	9711	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grades 1 and 2 Oil	County data: FED_MIL-out adjust by AEO Comm Dist
FED_MIL-C2	10300503	9711	External Combustion Boilers; Commercial/Institutional; Distillate Oil; < 10 Million Btu/hr **	County data: FED_MIL-out adjust by AEO Comm Dist

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 806-C2	10300504	8062	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grade 4 Oil	County data: SIC 806-out adjust by AEO Comm Dist
FED_MIL-C2	10300504	9711	External Combustion Boilers; Commercial/Institutional; Distillate Oil; Grade 4 Oil	County data: FED_MIL-out adjust by AEO Comm Dist
SIC 7-C5	10300601	723	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 7-out adjust by AEO Comm Ngas
SIC 203-C5	10300601	2033	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 203-out adjust by AEO Comm Ngas
SIC 208-C5	10300601	2082	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 208-out adjust by AEO Comm Ngas
SIC 252+-C5	10300601	2599	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 252+-out adjust by AEO Comm Ngas
SIC 275&6C5	10300601	2752	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 275&6out adjust by AEO Comm Ngas
SIC 344-C5	10300601	3443	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 344-out adjust by AEO Comm Ngas
SIC 349-C5	10300601	3499	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 349-out adjust by AEO Comm Ngas
SIC 367-C5	10300601	3678	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 367-out adjust by AEO Comm Ngas
CATEGORY22	10300601	4911	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY22	10300601	4931	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY50	10300601	4961	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC 721&5C5	10300601	7216	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 721&5out adjust by AEO Comm Ngas
SIC 806-C5	10300601	8062	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 806-out adjust by AEO Comm Ngas
SIC 82-C5	10300601	8211	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 82-out adjust by AEO Comm Ngas
SIC 82-C5	10300601	8221	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 82-out adjust by AEO Comm Ngas
SIC 81+-C5	10300601	8700	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: SIC 81+-out adjust by AEO Comm Ngas
FED_MIL-C5	10300601	9711	External Combustion Boilers; Commercial/Institutional; Natural Gas; > 100 Million Btu/hr	County data: FED_MIL-out adjust by AEO Comm Ngas
SIC 01&02C5	10300602	174	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 01&02out adjust by AEO Comm Ngas
SIC 01&02C5	10300602	191	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 01&02out adjust by AEO Comm Ngas
SIC 7-C5	10300602	723	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 7-out adjust by AEO Comm Ngas
SIC 12-C5	10300602	1182	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 12-out adjust by AEO Comm Ngas
SIC 202-C5	10300602	2021	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 202-out adjust by AEO Comm Ngas
SIC 202-C5	10300602	2022	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 202-out adjust by AEO Comm Ngas
SIC 202-C5	10300602	2023	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 202-out adjust by AEO Comm Ngas
SIC 202-C5	10300602	2024	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 202-out adjust by AEO Comm Ngas
SIC 202-C5	10300602	2026	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 202-out adjust by AEO Comm Ngas
SIC 203-C5	10300602	2033	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 203-out adjust by AEO Comm Ngas
SIC 204&7C5	10300602	2047	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 204&7out adjust by AEO Comm Ngas
SIC 205-C5	10300602	2051	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 205-out adjust by AEO Comm Ngas
SIC 204&7C5	10300602	2076	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 204&7out adjust by AEO Comm Ngas
SIC 204&7C5	10300602	2077	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 204&7out adjust by AEO Comm Ngas
SIC 261-3C5	10300602	2631	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 261-3out adjust by AEO Comm Ngas
SIC 265-C5	10300602	2653	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 265-out adjust by AEO Comm Ngas
SIC 265-C5	10300602	2657	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 265-out adjust by AEO Comm Ngas
SIC 267-C5	10300602	2672	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 267-out adjust by AEO Comm Ngas
SIC 275&6C5	10300602	2754	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 275&6out adjust by AEO Comm Ngas
SIC 281&6C5	10300602	2816	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 281&6out adjust by AEO Comm Ngas
SIC 281&6C5	10300602	2819	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 281&6out adjust by AEO Comm Ngas
SIC 283-C5	10300602	2831	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 283-out adjust by AEO Comm Ngas
SIC 283-C5	10300602	2834	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 283-out adjust by AEO Comm Ngas
SIC 283-C5	10300602	2836	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 283-out adjust by AEO Comm Ngas
SIC 281&6C5	10300602	2869	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 281&6out adjust by AEO Comm Ngas
SIC 287-C5	10300602	2879	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 287-out adjust by AEO Comm Ngas
SIC 289-C5	10300602	2899	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 289-out adjust by AEO Comm Ngas
SIC 291-C5	10300602	2911	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 291-out adjust by AEO Comm Ngas
SIC 295&9C5	10300602	2952	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 295&9out adjust by AEO Comm Ngas
SIC 308-C5	10300602	3086	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 308-out adjust by AEO Comm Ngas
SIC 308-C5	10300602	3089	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 308-out adjust by AEO Comm Ngas
SIC 311+-C5	10300602	3110	External Combustion Boilers; Commercial/Institutional; Natural Gas; 10-100 Million Btu/hr	County data: SIC 311+-out adjust by AEO Comm Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 494+-C6	10300701	4952	External Combustion Boilers; Commercial/Institutional; Process Gas; POTW Digester Gas-fired Boiler	County data: SIC 494+-out adjust by AEO Comm Renew
SIC 494+-C6	10300701	4953	External Combustion Boilers; Commercial/Institutional; Process Gas; POTW Digester Gas-fired Boiler	County data: SIC 494+-out adjust by AEO Comm Renew
SIC 494+-C6	10300701	4959	External Combustion Boilers; Commercial/Institutional; Process Gas; POTW Digester Gas-fired Boiler	County data: SIC 494+-out adjust by AEO Comm Renew
SIC 91-97C6	10300701	9631	External Combustion Boilers; Commercial/Institutional; Process Gas; POTW Digester Gas-fired Boiler	County data: SIC 91-97out adjust by AEO Comm Renew
SIC 15-17C8	10300799	1629	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 15-17out adjust by AEO Comm Total
SIC 291-C8	10300799	2911	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 291-out adjust by AEO Comm Total
SIC 492&3C8	10300799	4924	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 492&3out adjust by AEO Comm Total
SIC 494+-C8	10300799	4941	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 494+-out adjust by AEO Comm Total
SIC 494+-C8	10300799	4952	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 494+-out adjust by AEO Comm Total
SIC 494+-C8	10300799	4953	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 494+-out adjust by AEO Comm Total
SIC 494+-C8	10300799	4959	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 494+-out adjust by AEO Comm Total
SIC 82-C8	10300799	8221	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 82-out adjust by AEO Comm Total
SIC 82-C8	10300799	8222	External Combustion Boilers; Commercial/Institutional; Process Gas; Other Not Classified	County data: SIC 82-out adjust by AEO Comm Total
SIC 15-17C3	10301001	1611	External Combustion Boilers; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Butane	County data: SIC 15-17out adjust by AEO Comm LPG
SIC 252+-C3	10301001	2599	External Combustion Boilers; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Butane	County data: SIC 252+-out adjust by AEO Comm LPG
SIC 494+-C3	10301001	4952	External Combustion Boilers; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Butane	County data: SIC 494+-out adjust by AEO Comm LPG
FED_MIL-C3	10301001	9711	External Combustion Boilers; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Butane	County data: FED_MIL-out adjust by AEO Comm LPG
SIC 7-C3	10301002	723	External Combustion Boilers; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 7-out adjust by AEO Comm LPG
SIC 7-C3	10301002	724	External Combustion Boilers; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Propane	County data: SIC 7-out adjust by AEO Comm LPG
FED_CIVL-C3	10301002	9661	External Combustion Boilers; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Propane	County data: FED_CIVL-out adjust by AEO Comm LPG
FED_MIL-C3	10301002	9711	External Combustion Boilers; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Propane	County data: FED_MIL-out adjust by AEO Comm LPG
SIC 45-C6	10301201	4581	External Combustion Boilers; Commercial/Institutional; Solid Waste; Specify Waste Material in Comments	County data: SIC 45-out adjust by AEO Comm Renew
NONGAS_UTIL	10301201	4911	External Combustion Boilers; Commercial/Institutional; Solid Waste; Specify Waste Material in Comments	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC 10-I31	10500105	1061	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 10-out adjust by AEO Ind Dist
SIC 281&6I31	10500105	2812	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 281&6out adjust by AEO Ind Dist
SIC 372&6I31	10500105	3764	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 372&6out adjust by AEO Ind Dist
SIC 45-I31	10500105	4581	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 45-out adjust by AEO Ind Dist
SIC 806-I31	10500105	8062	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 806-out adjust by AEO Ind Dist
SIC 82-I31	10500105	8221	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 82-out adjust by AEO Ind Dist
SIC 82-I31	10500105	8249	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 82-out adjust by AEO Ind Dist
SIC 836-I31	10500105	8361	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 836-out adjust by AEO Ind Dist
SIC 873-I31	10500105	8731	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 873-out adjust by AEO Ind Dist
SIC 91-97I31	10500105	9223	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 91-97out adjust by AEO Ind Dist
SIC 91-97I31	10500105	9621	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: SIC 91-97out adjust by AEO Ind Dist
FED_MIL-I31	10500105	9711	External Combustion Boilers; Space Heaters; Industrial; Distillate Oil	County data: FED_MIL-out adjust by AEO Ind Dist
SIC 01&02I35	10500106	181	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 01&02out adjust by AEO Ind Ngas
SIC 131&2I35	10500106	1311	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 208-I35	10500106	2086	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 208-out adjust by AEO Ind Ngas
SIC 209-I35	10500106	2096	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 209-out adjust by AEO Ind Ngas
SIC 209-I35	10500106	2099	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 209-out adjust by AEO Ind Ngas
SIC 252+-I35	10500106	2521	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 252+-out adjust by AEO Ind Ngas
SIC 252+-I35	10500106	2599	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 252+-out adjust by AEO Ind Ngas
SIC 26-I35	10500106	2649	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 26-out adjust by AEO Ind Ngas
SIC 271-I35	10500106	2711	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 271-out adjust by AEO Ind Ngas
SIC 275&6I35	10500106	2759	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 275&6out adjust by AEO Ind Ngas
SIC 283-I35	10500106	2833	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 283-out adjust by AEO Ind Ngas
SIC 283-I35	10500106	2834	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 283-out adjust by AEO Ind Ngas
SIC 289-I35	10500106	2891	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 289-out adjust by AEO Ind Ngas
SIC 302+-I35	10500106	3061	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 302+-out adjust by AEO Ind Ngas
SIC 325+-I35	10500106	3255	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 325+-out adjust by AEO Ind Ngas
SIC 327-I35	10500106	3272	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 327-out adjust by AEO Ind Ngas
SIC 331-I35	10500106	3312	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 331-out adjust by AEO Ind Ngas
SIC 333-I35	10500106	3334	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 333-out adjust by AEO Ind Ngas
SIC 336-I35	10500106	3369	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 336-out adjust by AEO Ind Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 342-I35	10500106	3429	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 342-out adjust by AEO Ind Ngas
SIC 343-I35	10500106	3432	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 343-out adjust by AEO Ind Ngas
SIC 346-I35	10500106	3469	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 346-out adjust by AEO Ind Ngas
SIC 347-I35	10500106	3471	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 347-out adjust by AEO Ind Ngas
SIC 347-I35	10500106	3479	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 347-out adjust by AEO Ind Ngas
SIC 348-I35	10500106	3489	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 348-out adjust by AEO Ind Ngas
SIC 353-I35	10500106	3531	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 353-out adjust by AEO Ind Ngas
SIC 359-I35	10500106	3599	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 359-out adjust by AEO Ind Ngas
SIC 366-I35	10500106	3669	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 366-out adjust by AEO Ind Ngas
SIC 367-I35	10500106	3674	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 367-out adjust by AEO Ind Ngas
SIC 367-I35	10500106	3678	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 367-out adjust by AEO Ind Ngas
SIC 367-I35	10500106	3679	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 367-out adjust by AEO Ind Ngas
SIC 372&6I35	10500106	3721	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 372&6I35	10500106	3724	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 372&6I35	10500106	3728	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 372&6I35	10500106	3761	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 372&6I35	10500106	3769	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 381-I35	10500106	3812	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 381-out adjust by AEO Ind Ngas
SIC 384-I35	10500106	3841	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 384-out adjust by AEO Ind Ngas
CATEGORY22	10500106	4931	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	10500106	4932	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	Cty/State data: #50 in report; SIC_131&2out & SIC 492&3emp
SIC 50&1-I35	10500106	5084	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 50&1-I35	10500106	5171	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 721&5I35	10500106	7216	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 721&5out adjust by AEO Ind Ngas
SIC 791&9I35	10500106	7996	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 791&9out adjust by AEO Ind Ngas
SIC 805-I35	10500106	8059	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 805-out adjust by AEO Ind Ngas
SIC 806-I35	10500106	8062	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 82-I35	10500106	8221	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 82-out adjust by AEO Ind Ngas
SIC 873-I35	10500106	8731	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 873-out adjust by AEO Ind Ngas
SIC 873-I35	10500106	8733	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 873-out adjust by AEO Ind Ngas
SIC 872+-I35	10500106	8922	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 872+-out adjust by AEO Ind Ngas
SIC 91-97I35	10500106	9223	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: SIC 91-97out adjust by AEO Ind Ngas
FED_MIL-I35	10500106	9711	External Combustion Boilers; Space Heaters; Industrial; Natural Gas	County data: FED_MIL-out adjust by AEO Ind Ngas
SIC 14-I32	10500110	1479	External Combustion Boilers; Space Heaters; Industrial; Liquified Petroleum Gas (LPG)	County data: SIC 14-out adjust by AEO Ind LPG
SIC 203-I32	10500110	2033	External Combustion Boilers; Space Heaters; Industrial; Liquified Petroleum Gas (LPG)	County data: SIC 203-out adjust by AEO Ind LPG
SIC 372&6I32	10500110	3761	External Combustion Boilers; Space Heaters; Industrial; Liquified Petroleum Gas (LPG)	County data: SIC 372&6out adjust by AEO Ind LPG
SIC 45-C2	10500205	4581	External Combustion Boilers; Space Heaters; Commercial/Institutional; Distillate Oil	County data: SIC 45-out adjust by AEO Comm Dist
SIC 873-C2	10500205	8731	External Combustion Boilers; Space Heaters; Commercial/Institutional; Distillate Oil	County data: SIC 873-out adjust by AEO Comm Dist
SIC 204&7C5	10500206	2043	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 204&7out adjust by AEO Comm Ngas
SIC 205-C5	10500206	2051	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 205-out adjust by AEO Comm Ngas
SIC 229-C5	10500206	2298	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 229-out adjust by AEO Comm Ngas
SIC 265-C5	10500206	2653	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 265-out adjust by AEO Comm Ngas
SIC 271-C5	10500206	2711	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 271-out adjust by AEO Comm Ngas
SIC 275&6C5	10500206	2752	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 275&6out adjust by AEO Comm Ngas
SIC 281&6C5	10500206	2819	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 281&6out adjust by AEO Comm Ngas
SIC 283-C5	10500206	2833	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 283-out adjust by AEO Comm Ngas
SIC 283-C5	10500206	2834	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 283-out adjust by AEO Comm Ngas
SIC 283-C5	10500206	2835	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 283-out adjust by AEO Comm Ngas
SIC 287-C5	10500206	2879	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 287-out adjust by AEO Comm Ngas
SIC 289-C5	10500206	2891	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 289-out adjust by AEO Comm Ngas
SIC 327-C5	10500206	3272	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 327-out adjust by AEO Comm Ngas
SIC 331-C5	10500206	3312	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 331-out adjust by AEO Comm Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 872+-C5	10500206	8922	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 872+-out adjust by AEO Comm Ngas
SIC 91-97C5	10500206	9199	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 91-97out adjust by AEO Comm Ngas
SIC 91-97C5	10500206	9222	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 91-97out adjust by AEO Comm Ngas
SIC 91-97C5	10500206	9223	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 91-97out adjust by AEO Comm Ngas
SIC 91-97C5	10500206	9431	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 91-97out adjust by AEO Comm Ngas
SIC 91-97C5	10500206	9641	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: SIC 91-97out adjust by AEO Comm Ngas
FED_CIVL-C5	10500206	9661	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: FED_CIVL-out adjust by AEO Comm Ngas
FED_MIL-C5	10500206	9711	External Combustion Boilers; Space Heaters; Commercial/Institutional; Natural Gas	County data: FED_MIL-out adjust by AEO Comm Ngas
NONGAS_UTIL	20100101	4911	Internal Combustion Engines; Electric Generation; Distillate Oil (Diesel); Turbine	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20100101	4931	Internal Combustion Engines; Electric Generation; Distillate Oil (Diesel); Turbine	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20100102	4911	Internal Combustion Engines; Electric Generation; Distillate Oil (Diesel); Reciprocating	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20100102	4931	Internal Combustion Engines; Electric Generation; Distillate Oil (Diesel); Reciprocating	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
CATEGORY22	20100201	4911	Internal Combustion Engines; Electric Generation; Natural Gas; Turbine	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY22	20100201	4931	Internal Combustion Engines; Electric Generation; Natural Gas; Turbine	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY22	20100202	4911	Internal Combustion Engines; Electric Generation; Natural Gas; Reciprocating	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY22	20100202	4931	Internal Combustion Engines; Electric Generation; Natural Gas; Reciprocating	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
NONGAS_UTIL	20100801	4931	Internal Combustion Engines; Electric Generation; Landfill Gas; Turbine	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20100802	4911	Internal Combustion Engines; Electric Generation; Landfill Gas; Reciprocating	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20100802	4931	Internal Combustion Engines; Electric Generation; Landfill Gas; Reciprocating	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20100807	4931	Internal Combustion Engines; Electric Generation; Landfill Gas; Reciprocating; Exhaust	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20100809	4931	Internal Combustion Engines; Electric Generation; Landfill Gas; Turbine; Exhaust	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20101001	4911	Internal Combustion Engines; Electric Generation; Geysers/Geothermal; Steam Turbine	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
NONGAS_UTIL	20101031	4911	Internal Combustion Engines; Electric Generation; Geysers/Geothermal; Pipeline Fugitives: Vents/Leaks	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC 131&2I31	20200101	1311	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 131&2out adjust by AEO Ind Dist
SIC 14-I31	20200101	1429	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 14-out adjust by AEO Ind Dist
SIC 15-17I31	20200101	1629	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 15-17out adjust by AEO Ind Dist
SIC 283-I31	20200101	2834	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 283-out adjust by AEO Ind Dist
SIC 327-I31	20200101	3273	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 327-out adjust by AEO Ind Dist
SIC 367-I31	20200101	3674	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 367-out adjust by AEO Ind Dist
SIC 372&6I31	20200101	3721	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 372&6out adjust by AEO Ind Dist
SIC 45-I31	20200101	4512	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 45-out adjust by AEO Ind Dist
SIC 45-I31	20200101	4581	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 45-out adjust by AEO Ind Dist
SIC 46-I31	20200101	4612	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 46-out adjust by AEO Ind Dist
SIC 48-I31	20200101	4810	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 48-out adjust by AEO Ind Dist
SIC 48-I31	20200101	4899	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 48-out adjust by AEO Ind Dist
SIC 494+-I31	20200101	4952	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 494+-out adjust by AEO Ind Dist
SIC 494+-I31	20200101	4959	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 494+-out adjust by AEO Ind Dist
SIC 50&1-I31	20200101	5084	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 50&1-out adjust by AEO Ind Dist
SIC 50&1-I31	20200101	5171	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 50&1-out adjust by AEO Ind Dist
SIC 60-I31	20200101	6021	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 60-out adjust by AEO Ind Dist
SIC 70-I31	20200101	7011	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 70-out adjust by AEO Ind Dist
SIC 82-I31	20200101	8221	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 82-out adjust by AEO Ind Dist
SIC 873-I31	20200101	8731	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 873-out adjust by AEO Ind Dist
SIC 91-97I31	20200101	9631	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: SIC 91-97out adjust by AEO Ind Dist
FED_MIL-I31	20200101	9711	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine	County data: FED_MIL-out adjust by AEO Ind Dist
SIC 01&02I31	20200102	174	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 01&02out adjust by AEO Ind Dist
SIC 10-I31	20200102	1011	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 10-out adjust by AEO Ind Dist
SIC 10-I31	20200102	1041	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 10-out adjust by AEO Ind Dist
SIC 131&2I31	20200102	1311	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 131&2out adjust by AEO Ind Dist
SIC 131&2I31	20200102	1321	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 131&2out adjust by AEO Ind Dist

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 82-131	20200102	8222	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 82-out adjust by AEO Ind Dist
SIC 836-131	20200102	8361	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 836-out adjust by AEO Ind Dist
SIC 81+-131	20200102	8700	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 81+-out adjust by AEO Ind Dist
SIC 871-131	20200102	8711	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 871-out adjust by AEO Ind Dist
SIC 873-131	20200102	8731	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 873-out adjust by AEO Ind Dist
SIC 873-131	20200102	8734	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 873-out adjust by AEO Ind Dist
SIC 874-131	20200102	8741	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 874-out adjust by AEO Ind Dist
SIC 874-131	20200102	8742	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 874-out adjust by AEO Ind Dist
SIC 874-131	20200102	8748	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 874-out adjust by AEO Ind Dist
SIC 91-97131	20200102	9199	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 91-97out adjust by AEO Ind Dist
SIC 91-97131	20200102	9221	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 91-97out adjust by AEO Ind Dist
SIC 91-97131	20200102	9223	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 91-97out adjust by AEO Ind Dist
SIC 91-97131	20200102	9511	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 91-97out adjust by AEO Ind Dist
SIC 91-97131	20200102	9621	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 91-97out adjust by AEO Ind Dist
SIC 91-97131	20200102	9631	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: SIC 91-97out adjust by AEO Ind Dist
FED_MIL-131	20200102	9711	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: FED_MIL-out adjust by AEO Ind Dist
TOTAL-131	20200102	9999	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating	County data: TOTAL-out adjust by AEO Ind Dist
SIC 203-131	20200103	2034	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine; Cogeneration	County data: SIC 203-out adjust by AEO Ind Dist
SIC 209-131	20200103	2099	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine; Cogeneration	County data: SIC 209-out adjust by AEO Ind Dist
SIC 267-131	20200103	2676	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine; Cogeneration	County data: SIC 267-out adjust by AEO Ind Dist
SIC 295&9131	20200103	2951	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine; Cogeneration	County data: SIC 295&9out adjust by AEO Ind Dist
SIC 45-131	20200103	4581	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine; Cogeneration	County data: SIC 45-out adjust by AEO Ind Dist
NONGAS_UTIL	20200103	4931	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine; Cogeneration	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC 806-131	20200103	8062	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine; Cogeneration	County data: SIC 806-out adjust by AEO Ind Dist
SIC 91-97131	20200103	9223	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Turbine; Cogeneration	County data: SIC 91-97out adjust by AEO Ind Dist
SIC 7-131	20200104	723	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 7-out adjust by AEO Ind Dist
SIC 14-131	20200104	1429	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 14-out adjust by AEO Ind Dist
SIC 14-131	20200104	1442	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 14-out adjust by AEO Ind Dist
SIC 15-17131	20200104	1799	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 15-17out adjust by AEO Ind Dist
SIC 203-131	20200104	2032	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 203-out adjust by AEO Ind Dist
SIC 206-131	20200104	2063	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 206-out adjust by AEO Ind Dist
SIC 283-131	20200104	2834	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 283-out adjust by AEO Ind Dist
SIC 287-131	20200104	2873	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 287-out adjust by AEO Ind Dist
SIC 291-131	20200104	2911	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 291-out adjust by AEO Ind Dist
SIC 347-131	20200104	3471	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 347-out adjust by AEO Ind Dist
SIC 48-131	20200104	4813	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 48-out adjust by AEO Ind Dist
NONGAS_UTIL	20200104	4911	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC 494+-131	20200104	4952	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 494+-out adjust by AEO Ind Dist
SIC 61&7-131	20200104	6733	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 61&7-out adjust by AEO Ind Dist
SIC 735-131	20200104	7359	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 735-out adjust by AEO Ind Dist
SIC 791&9131	20200104	7999	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 791&9out adjust by AEO Ind Dist
SIC 806-131	20200104	8062	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 806-out adjust by AEO Ind Dist
SIC 82-131	20200104	8221	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 82-out adjust by AEO Ind Dist
SIC 91-97131	20200104	9199	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Cogeneration	County data: SIC 91-97out adjust by AEO Ind Dist
SIC 203-131	20200107	2033	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Exhaust	County data: SIC 203-out adjust by AEO Ind Dist
SIC 206-131	20200107	2063	Internal Combustion Engines; Industrial; Distillate Oil (Diesel); Reciprocating; Exhaust	County data: SIC 206-out adjust by AEO Ind Dist
SIC 131&2135	20200201	1311	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 261-3135	20200201	2621	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 261-3out adjust by AEO Ind Ngas
SIC 261-3135	20200201	2631	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 261-3out adjust by AEO Ind Ngas
SIC 291-135	20200201	2911	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 291-out adjust by AEO Ind Ngas
SIC 308-135	20200201	3084	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 308-out adjust by AEO Ind Ngas
SIC 327-135	20200201	3273	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 327-out adjust by AEO Ind Ngas
SIC 371-135	20200201	3714	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 371-out adjust by AEO Ind Ngas
SIC 45-135	20200201	4581	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 45-out adjust by AEO Ind Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 46-135	20200201	4612	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 46-out adjust by AEO Ind Ngas
CATEGORY22	20200201	4911	Internal Combustion Engines; Industrial; Natural Gas; Turbine	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	20200201	4922	Internal Combustion Engines; Industrial; Natural Gas; Turbine	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY22	20200201	4931	Internal Combustion Engines; Industrial; Natural Gas; Turbine	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	20200201	4932	Internal Combustion Engines; Industrial; Natural Gas; Turbine	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC 494+-I35	20200201	4952	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 494+-I35	20200201	4953	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 70-135	20200201	7011	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 70-out adjust by AEO Ind Ngas
SIC 806-135	20200201	8062	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 82-135	20200201	8221	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 82-out adjust by AEO Ind Ngas
SIC 873-135	20200201	8731	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 873-out adjust by AEO Ind Ngas
SIC 91-97I35	20200201	9631	Internal Combustion Engines; Industrial; Natural Gas; Turbine	County data: SIC 91-97out adjust by AEO Ind Ngas
SIC 13-135	20200202	1300	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 13-out adjust by AEO Ind Ngas
CATEGORY26	20200202	1311	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: #26 in report; SIC 131&2out-AEO Ind Ngas
CATEGORY26	20200202	1321	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: #26 in report; SIC 131&2out-AEO Ind Ngas
SIC 138 I35	20200202	1381	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 138 out adjust by AEO Ind Ngas
SIC 138 I35	20200202	1389	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 138 out adjust by AEO Ind Ngas
SIC 14-135	20200202	1442	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 14-out adjust by AEO Ind Ngas
SIC 15-17I35	20200202	1721	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 15-17out adjust by AEO Ind Ngas
SIC 202-135	20200202	2022	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 202-out adjust by AEO Ind Ngas
SIC 203-135	20200202	2037	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 203-out adjust by AEO Ind Ngas
SIC 208-135	20200202	2083	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 208-out adjust by AEO Ind Ngas
SIC 227-135	20200202	2273	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 227-out adjust by AEO Ind Ngas
SIC 284-135	20200202	2841	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 284-out adjust by AEO Ind Ngas
SIC 289-135	20200202	2899	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 289-out adjust by AEO Ind Ngas
SIC 291-135	20200202	2911	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 291-out adjust by AEO Ind Ngas
SIC 308-135	20200202	3086	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 308-out adjust by AEO Ind Ngas
SIC 334&9I35	20200202	3398	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 334&9out adjust by AEO Ind Ngas
SIC 342-135	20200202	3429	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 342-out adjust by AEO Ind Ngas
SIC 347-135	20200202	3471	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 347-out adjust by AEO Ind Ngas
SIC 349-135	20200202	3494	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 349-out adjust by AEO Ind Ngas
SIC 351-135	20200202	3519	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 351-out adjust by AEO Ind Ngas
SIC 353-135	20200202	3531	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 353-out adjust by AEO Ind Ngas
SIC 355-135	20200202	3559	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 355-out adjust by AEO Ind Ngas
SIC 372&6I35	20200202	3721	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 382-135	20200202	3825	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 382-out adjust by AEO Ind Ngas
SIC 46-135	20200202	4612	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 46-out adjust by AEO Ind Ngas
CATEGORY22	20200202	4911	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	20200202	4922	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY50	20200202	4923	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY50	20200202	4925	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY22	20200202	4931	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	20200202	4939	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC 494+-I35	20200202	4941	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 494+-I35	20200202	4952	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 494+-out adjust by AEO Ind Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 494+-I35	20200202	4953	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 494+-I35	20200202	4959	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 494+-out adjust by AEO Ind Ngas
CATEGORY50	20200202	4961	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC 50&1-I35	20200202	5141	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 52+-I35	20200202	5311	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 52+-out adjust by AEO Ind Ngas
SIC 70-I35	20200202	7011	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 70-out adjust by AEO Ind Ngas
SIC 721&5I35	20200202	7218	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 721&5out adjust by AEO Ind Ngas
SIC 732+-I35	20200202	7384	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 732+-out adjust by AEO Ind Ngas
SIC 781-3I35	20200202	7819	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 781-3out adjust by AEO Ind Ngas
SIC 794-I35	20200202	7941	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 794-out adjust by AEO Ind Ngas
SIC 791&9I35	20200202	7996	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 791&9out adjust by AEO Ind Ngas
SIC 806-I35	20200202	8062	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 806-I35	20200202	8069	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 82-I35	20200202	8211	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 82-out adjust by AEO Ind Ngas
SIC 82-I35	20200202	8221	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 82-out adjust by AEO Ind Ngas
SIC 82-I35	20200202	8222	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 82-out adjust by AEO Ind Ngas
SIC 81+-I35	20200202	8700	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 81+-out adjust by AEO Ind Ngas
SIC 873-I35	20200202	8731	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 873-out adjust by AEO Ind Ngas
SIC 91-97I35	20200202	9199	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 91-97out adjust by AEO Ind Ngas
SIC 91-97I35	20200202	9511	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 91-97out adjust by AEO Ind Ngas
SIC 91-97I35	20200202	9631	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating	County data: SIC 91-97out adjust by AEO Ind Ngas
SIC 131&2I35	20200203	1311	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 131&2I35	20200203	1321	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 203-I35	20200203	2034	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 203-out adjust by AEO Ind Ngas
SIC 209-I35	20200203	2096	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 209-out adjust by AEO Ind Ngas
SIC 209-I35	20200203	2099	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 209-out adjust by AEO Ind Ngas
SIC 261-3I35	20200203	2621	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 261-3out adjust by AEO Ind Ngas
SIC 261-3I35	20200203	2631	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 261-3out adjust by AEO Ind Ngas
SIC 267-I35	20200203	2676	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 267-out adjust by AEO Ind Ngas
SIC 281&6I35	20200203	2813	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 281&6out adjust by AEO Ind Ngas
SIC 284-I35	20200203	2841	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 284-out adjust by AEO Ind Ngas
SIC 291-I35	20200203	2911	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 291-out adjust by AEO Ind Ngas
SIC 372&6I35	20200203	3728	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 372&6out adjust by AEO Ind Ngas
CATEGORY22	20200203	4911	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	20200203	4923	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY22	20200203	4931	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
SIC 494+-I35	20200203	4952	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 806-I35	20200203	8062	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 82-I35	20200203	8221	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 82-out adjust by AEO Ind Ngas
SIC 91-97I35	20200203	9199	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 91-97out adjust by AEO Ind Ngas
SIC 91-97I35	20200203	9223	Internal Combustion Engines; Industrial; Natural Gas; Turbine: Cogeneration	County data: SIC 91-97out adjust by AEO Ind Ngas
SIC 131&2I35	20200204	1311	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 261-3I35	20200204	2621	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 261-3out adjust by AEO Ind Ngas
SIC 261-3I35	20200204	2631	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 261-3out adjust by AEO Ind Ngas
SIC 281&6I35	20200204	2812	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 281&6out adjust by AEO Ind Ngas
SIC 283-I35	20200204	2834	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 283-out adjust by AEO Ind Ngas
SIC 291-I35	20200204	2911	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 291-out adjust by AEO Ind Ngas
SIC 351-I35	20200204	3511	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 351-out adjust by AEO Ind Ngas
SIC 359-I35	20200204	3599	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 359-out adjust by AEO Ind Ngas
SIC 362-I35	20200204	3621	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating: Cogeneration	County data: SIC 362-out adjust by AEO Ind Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 367-I35	20200204	3674	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 367-out adjust by AEO Ind Ngas
SIC 393+-I35	20200204	3999	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 393+-out adjust by AEO Ind Ngas
SIC 42-I35	20200204	4222	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 42-out adjust by AEO Ind Ngas
SIC 45-I35	20200204	4581	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 45-out adjust by AEO Ind Ngas
CATEGORY22	20200204	4911	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY22	20200204	4931	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY50	20200204	4939	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC 494+-I35	20200204	4941	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 494+-I35	20200204	4952	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 52+-I35	20200204	5499	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 52+-out adjust by AEO Ind Ngas
SIC 61&7-I35	20200204	6733	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 61&7-out adjust by AEO Ind Ngas
SIC 70-I35	20200204	7011	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 70-out adjust by AEO Ind Ngas
SIC 806-I35	20200204	8062	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 91-97I35	20200204	9431	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: SIC 91-97out adjust by AEO Ind Ngas
FED_MIL-I35	20200204	9711	Internal Combustion Engines; Industrial; Natural Gas; Reciprocating; Cogeneration	County data: FED_MIL-out adjust by AEO Ind Ngas
SIC 131&2I35	20200252	1311	Internal Combustion Engines; Industrial; Natural Gas; 2-cycle Lean Burn	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 131&2I35	20200253	1311	Internal Combustion Engines; Industrial; Natural Gas; 4-cycle Rich Burn	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 131&2I35	20200254	1311	Internal Combustion Engines; Industrial; Natural Gas; 4-cycle Lean Burn	County data: SIC 131&2out adjust by AEO Ind Ngas
SIC 01&02I34	20200301	181	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 01&02out adjust by AEO Ind Mgas
SIC 131&2I34	20200301	1311	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 131&2out adjust by AEO Ind Mgas
SIC 14-I34	20200301	1422	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 14-out adjust by AEO Ind Mgas
SIC 15-17I34	20200301	1542	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 15-17out adjust by AEO Ind Mgas
SIC 15-17I34	20200301	1623	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 15-17out adjust by AEO Ind Mgas
SIC 15-17I34	20200301	1700	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 15-17out adjust by AEO Ind Mgas
SIC 15-17I34	20200301	1721	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 15-17out adjust by AEO Ind Mgas
SIC 15-17I34	20200301	1761	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 15-17out adjust by AEO Ind Mgas
SIC 15-17I34	20200301	1795	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 15-17out adjust by AEO Ind Mgas
SIC 15-17I34	20200301	1799	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 15-17out adjust by AEO Ind Mgas
SIC 204&7I34	20200301	2041	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 204&7out adjust by AEO Ind Mgas
SIC 205-I34	20200301	2052	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 205-out adjust by AEO Ind Mgas
SIC 204&7I34	20200301	2074	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 204&7out adjust by AEO Ind Mgas
SIC 204&7I34	20200301	2077	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 204&7out adjust by AEO Ind Mgas
SIC 208-I34	20200301	2082	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 208-out adjust by AEO Ind Mgas
SIC 221+-I34	20200301	2281	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 221+-out adjust by AEO Ind Mgas
SIC 244&9I34	20200301	2499	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 244&9out adjust by AEO Ind Mgas
SIC 252+-I34	20200301	2521	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 252+-out adjust by AEO Ind Mgas
SIC 252+-I34	20200301	2522	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 252+-out adjust by AEO Ind Mgas
SIC 271-I34	20200301	2711	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 271-out adjust by AEO Ind Mgas
SIC 275&6I34	20200301	2761	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 275&6out adjust by AEO Ind Mgas
SIC 283-I34	20200301	2834	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 283-out adjust by AEO Ind Mgas
SIC 281&6I34	20200301	2865	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 281&6out adjust by AEO Ind Mgas
SIC 287-I34	20200301	2875	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 287-out adjust by AEO Ind Mgas
SIC 289-I34	20200301	2892	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 289-out adjust by AEO Ind Mgas
SIC 291-I34	20200301	2911	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 291-out adjust by AEO Ind Mgas
SIC 295&9I34	20200301	2952	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 295&9out adjust by AEO Ind Mgas
SIC 295&9I34	20200301	2992	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 295&9out adjust by AEO Ind Mgas
SIC 308-I34	20200301	3089	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 308-out adjust by AEO Ind Mgas
SIC 321+-I34	20200301	3229	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 321+-out adjust by AEO Ind Mgas
SIC 325+-I34	20200301	3255	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 325+-out adjust by AEO Ind Mgas
SIC 325+-I34	20200301	3259	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 325+-out adjust by AEO Ind Mgas
SIC 327-I34	20200301	3273	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 327-out adjust by AEO Ind Mgas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 50&1-134	20200301	5149	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 50&1-out adjust by AEO Ind Mgas
SIC 50&1-134	20200301	5171	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 50&1-out adjust by AEO Ind Mgas
SIC 52+-134	20200301	5511	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 52+-out adjust by AEO Ind Mgas
SIC 52+-134	20200301	5941	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 52+-out adjust by AEO Ind Mgas
SIC 60-134	20200301	6021	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 60-out adjust by AEO Ind Mgas
SIC 61&7-134	20200301	6733	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 61&7-out adjust by AEO Ind Mgas
SIC 70-134	20200301	7011	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 70-out adjust by AEO Ind Mgas
SIC 721&5134	20200301	7216	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 721&5out adjust by AEO Ind Mgas
SIC 732+-134	20200301	7389	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 732+-out adjust by AEO Ind Mgas
SIC 752-4134	20200301	7538	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 752-4out adjust by AEO Ind Mgas
SIC 769-134	20200301	7699	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 769-out adjust by AEO Ind Mgas
SIC 781-3134	20200301	7812	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 781-3out adjust by AEO Ind Mgas
SIC 781-3134	20200301	7819	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 781-3out adjust by AEO Ind Mgas
SIC 791&9134	20200301	7996	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 791&9out adjust by AEO Ind Mgas
SIC 791&9134	20200301	7999	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 791&9out adjust by AEO Ind Mgas
SIC 806-134	20200301	8062	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 806-out adjust by AEO Ind Mgas
SIC 82-134	20200301	8211	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 82-out adjust by AEO Ind Mgas
SIC 82-134	20200301	8221	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 82-out adjust by AEO Ind Mgas
SIC 82-134	20200301	8222	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 82-out adjust by AEO Ind Mgas
SIC 871-134	20200301	8711	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 871-out adjust by AEO Ind Mgas
SIC 873-134	20200301	8731	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 873-out adjust by AEO Ind Mgas
SIC 91-97134	20200301	9199	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 91-97out adjust by AEO Ind Mgas
SIC 91-97134	20200301	9223	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 91-97out adjust by AEO Ind Mgas
SIC 91-97134	20200301	9511	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 91-97out adjust by AEO Ind Mgas
SIC 91-97134	20200301	9621	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 91-97out adjust by AEO Ind Mgas
SIC 91-97134	20200301	9631	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: SIC 91-97out adjust by AEO Ind Mgas
FED_CIVL-134	20200301	9661	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: FED_CIVL-out adjust by AEO Ind Mgas
FED_MIL-134	20200301	9711	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: FED_MIL-out adjust by AEO Ind Mgas
TOTAL-134	20200301	9999	Internal Combustion Engines; Industrial; Gasoline; Reciprocating	County data: TOTAL-out adjust by AEO Ind Mgas
SIC 10-131	20200401	1041	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 10-out adjust by AEO Ind Dist
SIC 131&2131	20200401	1311	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 131&2out adjust by AEO Ind Dist
SIC 14-131	20200401	1411	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 14-out adjust by AEO Ind Dist
SIC 14-131	20200401	1442	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 14-out adjust by AEO Ind Dist
SIC 14-131	20200401	1499	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 14-out adjust by AEO Ind Dist
SIC 281&6131	20200401	2819	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 281&6out adjust by AEO Ind Dist
SIC 291-131	20200401	2911	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 291-out adjust by AEO Ind Dist
NONGAS_UTIL	20200401	4931	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC 492&3131	20200401	4932	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 492&3out adjust by AEO Ind Dist
SIC 494+-131	20200401	4952	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 494+-out adjust by AEO Ind Dist
SIC 806-131	20200401	8062	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 806-out adjust by AEO Ind Dist
SIC 871-131	20200401	8711	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: SIC 871-out adjust by AEO Ind Dist
FED_MIL-131	20200401	9711	Internal Combustion Engines; Industrial; Large Bore Engine; Diesel	County data: FED_MIL-out adjust by AEO Ind Dist
SIC 131&2141	20200702	1311	Internal Combustion Engines; Industrial; Process Gas; Reciprocating Engine	County data: SIC 131&2out adjust by AEO Ind Total
FED_MIL-136	20200901	9711	Internal Combustion Engines; Industrial; Kerosene/Naphtha (Jet Fuel); Turbine	County data: FED_MIL-out adjust by AEO Ind OthPet
SIC 10-132	20201001	1041	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 10-out adjust by AEO Ind LPG
SIC 131&2132	20201001	1311	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 131&2out adjust by AEO Ind LPG
SIC 15-17132	20201001	1721	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 15-17out adjust by AEO Ind LPG
SIC 15-17132	20201001	1761	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 15-17out adjust by AEO Ind LPG
SIC 205-132	20201001	2052	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 205-out adjust by AEO Ind LPG
SIC 208-132	20201001	2084	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 208-out adjust by AEO Ind LPG
SIC 209-132	20201001	2099	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 209-out adjust by AEO Ind LPG
SIC 242-132	20201001	2426	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 242-out adjust by AEO Ind LPG
SIC 244&9132	20201001	2499	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 244&9out adjust by AEO Ind LPG
SIC 251-132	20201001	2512	Internal Combustion Engines; Industrial; Liquified Petroleum Gas (LPG); Propane; Reciprocating	County data: SIC 251-out adjust by AEO Ind LPG

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
CATEGORY22	20300201	4911	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY50	20300201	4922	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY50	20300201	4925	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY22	20300201	4931	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
SIC_494+-C5	20300201	4941	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_494+-out adjust by AEO Comm Ngas
SIC_494+-C5	20300201	4952	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_494+-out adjust by AEO Comm Ngas
SIC_494+-C5	20300201	4953	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_494+-out adjust by AEO Comm Ngas
SIC_494+-C5	20300201	4959	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_494+-out adjust by AEO Comm Ngas
CATEGORY50	20300201	4961	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC_50&1-C5	20300201	5084	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_50&1-out adjust by AEO Comm Ngas
SIC_50&1-C5	20300201	5171	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_50&1-out adjust by AEO Comm Ngas
SIC_52+-C5	20300201	5541	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_52+-out adjust by AEO Comm Ngas
SIC_735-C5	20300201	7353	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_735-out adjust by AEO Comm Ngas
SIC_791&9C5	20300201	7996	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_791&9out adjust by AEO Comm Ngas
SIC_806-C5	20300201	8062	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_806-out adjust by AEO Comm Ngas
SIC_806-C5	20300201	8069	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_806-out adjust by AEO Comm Ngas
SIC_82-C5	20300201	8221	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_82-out adjust by AEO Comm Ngas
SIC_82-C5	20300201	8222	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_82-out adjust by AEO Comm Ngas
SIC_91-97C5	20300201	9111	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_91-97out adjust by AEO Comm Ngas
SIC_91-97C5	20300201	9199	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_91-97out adjust by AEO Comm Ngas
SIC_91-97C5	20300201	9511	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: SIC_91-97out adjust by AEO Comm Ngas
TOTAL-C5	20300201	9999	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Reciprocating	County data: TOTAL-out adjust by AEO Comm Ngas
SIC_265-C5	20300202	2653	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	County data: SIC_265-out adjust by AEO Comm Ngas
SIC_46-C5	20300202	4612	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	County data: SIC_46-out adjust by AEO Comm Ngas
CATEGORY22	20300202	4911	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY50	20300202	4922	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
CATEGORY50	20300202	4924	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC_494+-C5	20300202	4953	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	County data: SIC_494+-out adjust by AEO Comm Ngas
CATEGORY50	20300202	4961	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC_806-C5	20300202	8062	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	County data: SIC_806-out adjust by AEO Comm Ngas
SIC_91-97C5	20300202	9199	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	County data: SIC_91-97out adjust by AEO Comm Ngas
FED_MIL-C5	20300202	9711	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine	County data: FED_MIL-out adjust by AEO Comm Ngas
SIC_138_C5	20300203	1389	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine; Cogeneration	County data: SIC_138_out adjust by AEO Comm Ngas
CATEGORY22	20300203	4931	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine; Cogeneration	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
SIC_91-97C5	20300203	9223	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Turbine; Cogeneration	County data: SIC_91-97out adjust by AEO Comm Ngas
CATEGORY22	20300204	4931	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Cogeneration	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
SIC_52+-C5	20300204	5541	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Cogeneration	County data: SIC_52+-out adjust by AEO Comm Ngas
SIC_70-C5	20300204	7011	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Cogeneration	County data: SIC_70-out adjust by AEO Comm Ngas
SIC_806-C5	20300204	8062	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Cogeneration	County data: SIC_806-out adjust by AEO Comm Ngas
SIC_82-C5	20300204	8211	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Cogeneration	County data: SIC_82-out adjust by AEO Comm Ngas
SIC_82-C5	20300204	8221	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Cogeneration	County data: SIC_82-out adjust by AEO Comm Ngas
SIC_91-97C5	20300204	9223	Internal Combustion Engines; Commercial/Institutional; Natural Gas; Cogeneration	County data: SIC_91-97out adjust by AEO Comm Ngas
SIC_15-17C4	20300301	1622	Internal Combustion Engines; Commercial/Institutional; Gasoline; Reciprocating	County data: SIC_15-17out adjust by AEO Comm Mgas
SIC_15-17C4	20300301	1623	Internal Combustion Engines; Commercial/Institutional; Gasoline; Reciprocating	County data: SIC_15-17out adjust by AEO Comm Mgas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
FED_MIL-C3	20301001	9711	Internal Combustion Engines; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Propane; Reciprocating	County data: FED_MIL-out adjust by AEO Comm LPG
TOTAL-C3	20301001	9999	Internal Combustion Engines; Commercial/Institutional; Liquefied Petroleum Gas (LPG); Propane; Reciprocating	County data: TOTAL-out adjust by AEO Comm LPG
CATEGORY22	28888802	4911	Internal Combustion Engines; Fugitive Emissions; Other Not Classified; Specify in Comments	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
SIC_202-11	30190003	2023	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_202-out adjust by AEO Chem Ngas
SIC_209-11	30190003	2099	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_209-out adjust by AEO Chem Ngas
SIC_281&611	30190003	2819	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_281&6out adjust by AEO Chem Ngas
SIC_282-11	30190003	2821	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_282-out adjust by AEO Chem Ngas
SIC_284-11	30190003	2841	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_284-out adjust by AEO Chem Ngas
SIC_308-11	30190003	3086	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_308-out adjust by AEO Chem Ngas
SIC_325+-11	30190003	3295	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_325+-out adjust by AEO Chem Ngas
SIC_282-11	30190013	2821	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Natural Gas: Incinerators	County data: SIC_282-out adjust by AEO Chem Ngas
SIC_131&212	30190099	1311	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Specify in Comments Field	County data: SIC_131&2out adjust by AEO Chem Total
SIC_287-12	30190099	2873	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Specify in Comments Field	County data: SIC_287-out adjust by AEO Chem Total
SIC_494+-12	30190099	4952	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Specify in Comments Field	County data: SIC_494+-out adjust by AEO Chem Total
SIC_494+-12	30190099	4953	Industrial Processes; Chemical Manufacturing; Fuel Fired Equipment; Specify in Comments Field	County data: SIC_494+-out adjust by AEO Chem Total
SIC_7-18	30290002	724	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Residual Oil: Process Heaters	County data: SIC_7-out adjust by AEO Food Resid
SIC_287-18	30290002	2875	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Residual Oil: Process Heaters	County data: SIC_287-out adjust by AEO Food Resid
SIC_7-17	30290003	723	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_7-out adjust by AEO Food Ngas
SIC_7-17	30290003	724	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_7-out adjust by AEO Food Ngas
SIC_202-17	30290003	2022	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_202-out adjust by AEO Food Ngas
SIC_202-17	30290003	2023	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_202-out adjust by AEO Food Ngas
SIC_202-17	30290003	2026	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_202-out adjust by AEO Food Ngas
SIC_203-17	30290003	2034	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_203-out adjust by AEO Food Ngas
SIC_204&717	30290003	2043	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_204&7out adjust by AEO Food Ngas
SIC_206-17	30290003	2066	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_206-out adjust by AEO Food Ngas
SIC_206-17	30290003	2068	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_206-out adjust by AEO Food Ngas
SIC_204&717	30290003	2077	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_204&7out adjust by AEO Food Ngas
SIC_208-17	30290003	2083	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_208-out adjust by AEO Food Ngas
SIC_209-17	30290003	2096	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_209-out adjust by AEO Food Ngas
SIC_221+-17	30290003	2211	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_221+-out adjust by AEO Food Ngas
SIC_358-17	30290003	3581	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_358-out adjust by AEO Food Ngas
SIC_50&1-17	30290003	5143	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_50&1-out adjust by AEO Food Ngas
SIC_50&1-17	30290003	5153	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_50&1-out adjust by AEO Food Ngas
SIC_70-17	30290003	7011	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_70-out adjust by AEO Food Ngas
TOTAL-17	30290003	9999	Industrial Processes; Food and Agriculture; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: TOTAL-out adjust by AEO Food Ngas
SIC_334&911	30390001	3398	Industrial Processes; Primary Metal Production; Fuel Fired Equipment; Distillate Oil (No. 2): Process Heaters	County data: SIC_334&9out adjust by AEO Iron OthPet
SIC_331-110	30390003	3312	Industrial Processes; Primary Metal Production; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_331-out adjust by AEO Iron Ngas
SIC_332-110	30390003	3321	Industrial Processes; Primary Metal Production; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_332-out adjust by AEO Iron Ngas
SIC_334&9110	30390003	3341	Industrial Processes; Primary Metal Production; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_334&9out adjust by AEO Iron Ngas
SIC_334&9120	30400407	3341	Industrial Processes; Secondary Metal Production; Lead; Pot Furnace Heater; Natural Gas	County data: SIC_334&9out adjust by AEO OthMfg Ngas
SIC_336-120	30490003	3365	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_336-out adjust by AEO OthMfg Ngas
SIC_344-120	30490003	3444	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_344-out adjust by AEO OthMfg Ngas
SIC_372&6120	30490003	3728	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_372&6out adjust by AEO OthMfg Ngas
SIC_332-120	30490013	3321	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Incinerators	County data: SIC_332-out adjust by AEO OthMfg Ngas
SIC_494+-122	30490024	4953	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Process Gas: Flares	County data: SIC_494+-out adjust by AEO OthMfg Total
SIC_204&7120	30490033	2079	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_204&7out adjust by AEO OthMfg Ngas
SIC_289-120	30490033	2893	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_289-out adjust by AEO OthMfg Ngas
SIC_325+-120	30490033	3255	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_325+-out adjust by AEO OthMfg Ngas
SIC_332-120	30490033	3321	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_332-out adjust by AEO OthMfg Ngas
SIC_332-120	30490033	3324	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_332-out adjust by AEO OthMfg Ngas
SIC_332-120	30490033	3325	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_332-out adjust by AEO OthMfg Ngas
SIC_334&9120	30490033	3341	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_334&9out adjust by AEO OthMfg Ngas
SIC_335-120	30490033	3354	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_335-out adjust by AEO OthMfg Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC_336-I20	30490033	3364	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_336-out adjust by AEO OthMfg Ngas
SIC_336-I20	30490033	3365	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_336-out adjust by AEO OthMfg Ngas
SIC_334&9I20	30490033	3398	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_334&9out adjust by AEO OthMfg Ngas
SIC_341-I20	30490033	3412	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_341-out adjust by AEO OthMfg Ngas
SIC_344-I20	30490033	3443	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_344-out adjust by AEO OthMfg Ngas
SIC_346-I20	30490033	3462	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_346-out adjust by AEO OthMfg Ngas
SIC_346-I20	30490033	3463	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_346-out adjust by AEO OthMfg Ngas
SIC_349-I20	30490033	3499	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_349-out adjust by AEO OthMfg Ngas
SIC_357-I20	30490033	3571	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_357-out adjust by AEO OthMfg Ngas
SIC_362-I20	30490033	3621	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_362-out adjust by AEO OthMfg Ngas
SIC_364-I20	30490033	3643	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_364-out adjust by AEO OthMfg Ngas
SIC_371-I20	30490033	3714	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_371-out adjust by AEO OthMfg Ngas
SIC_372&6I20	30490033	3724	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_372&6out adjust by AEO OthMfg Ngas
SIC_372&6I20	30490033	3728	Industrial Processes; Secondary Metal Production; Fuel Fired Equipment; Natural Gas: Furnaces	County data: SIC_372&6out adjust by AEO OthMfg Ngas
SIC_14-I26	30500206	1442	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Natural Gas (Use 3-05-050-20 for MACT)	County data: SIC_14-out adjust by AEO Refin Ngas
SIC_15-17I26	30500206	1611	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Natural Gas (Use 3-05-050-20 for MACT)	County data: SIC_15-17out adjust by AEO Refin Ngas
SIC_261-3I26	30500206	2621	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Natural Gas (Use 3-05-050-20 for MACT)	County data: SIC_261-3out adjust by AEO Refin Ngas
SIC_267-I26	30500206	2679	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Natural Gas (Use 3-05-050-20 for MACT)	County data: SIC_267-out adjust by AEO Refin Ngas
SIC_291-I26	30500206	2911	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Natural Gas (Use 3-05-050-20 for MACT)	County data: SIC_291-out adjust by AEO Refin Ngas
SIC_295&9I26	30500206	2951	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Natural Gas (Use 3-05-050-20 for MACT)	County data: SIC_295&9out adjust by AEO Refin Ngas
SIC_873-I26	30500206	8731	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Natural Gas (Use 3-05-050-20 for MACT)	County data: SIC_873-out adjust by AEO Refin Ngas
SIC_295&9I27	30500207	2951	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Residual Oil (Use 3-05-050-21 for MACT)	County data: SIC_295&9out adjust by AEO Refin Resid
SIC_14-I24	30500208	1442	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Distillate Oil (Use 3-05-050-22 for MACT)	County data: SIC_14-out adjust by AEO Refin Dist
SIC_295&9I24	30500208	2951	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: Distillate Oil (Use 3-05-050-22 for MACT)	County data: SIC_295&9out adjust by AEO Refin Dist
SIC_14-I25	30500209	1442	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: LPG (Use 3-05-050-23 for MACT)	County data: SIC_14-out adjust by AEO Refin LPG
SIC_295&9I25	30500209	2951	Industrial Processes; Mineral Products; Asphalt Concrete; Asphalt Heater: LPG (Use 3-05-050-23 for MACT)	County data: SIC_295&9out adjust by AEO Refin LPG
CATEGORY38	30500606	3241	Industrial Processes; Mineral Products; Cement Manufacturing (Dry Process); Kilns	County/State data: #38 in report; regress using SIC_324-out
SIC_14-I13	30590001	1422	Industrial Processes; Mineral Products; Fuel Fired Equipment; Distillate Oil (No. 2): Process Heaters	County data: SIC_14-out adjust by AEO Min Dist
SIC_325+-I13	30590001	3259	Industrial Processes; Mineral Products; Fuel Fired Equipment; Distillate Oil (No. 2): Process Heaters	County data: SIC_325+-out adjust by AEO Min Dist
SIC_327-I13	30590001	3271	Industrial Processes; Mineral Products; Fuel Fired Equipment; Distillate Oil (No. 2): Process Heaters	County data: SIC_327-out adjust by AEO Min Dist
SIC_14-I14	30590003	1442	Industrial Processes; Mineral Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_14-out adjust by AEO Min Ngas
SIC_295&9I14	30590003	2951	Industrial Processes; Mineral Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_295&9out adjust by AEO Min Ngas
SIC_308-I14	30590003	3081	Industrial Processes; Mineral Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_308-out adjust by AEO Min Ngas
SIC_327-I14	30590003	3274	Industrial Processes; Mineral Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_327-out adjust by AEO Min Ngas
SIC_325+-I14	30590003	3295	Industrial Processes; Mineral Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_325+-out adjust by AEO Min Ngas
SIC_325+-I14	30590003	3296	Industrial Processes; Mineral Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_325+-out adjust by AEO Min Ngas
CATEGORY22	30590003	4911	Industrial Processes; Mineral Products; Fuel Fired Equipment; Natural Gas: Process Heaters	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
SIC_10-I15	30590005	1041	Industrial Processes; Mineral Products; Fuel Fired Equipment; Liquefied Petroleum Gas (LPG): Process Heaters	County data: SIC_10-out adjust by AEO Min OthPet
SIC_14-I15	30590005	1442	Industrial Processes; Mineral Products; Fuel Fired Equipment; Liquefied Petroleum Gas (LPG): Process Heaters	County data: SIC_14-out adjust by AEO Min OthPet
SIC_281&6I14	30590013	2819	Industrial Processes; Mineral Products; Fuel Fired Equipment; Natural Gas: Incinerators	County data: SIC_281&6out adjust by AEO Min Ngas
SIC_291-I30	30600103	2911	Industrial Processes; Petroleum Industry; Process Heaters; Oil-fired	County data: SIC_291-out adjust by AEO Refin TotPet
SIC_295&9I30	30600103	2951	Industrial Processes; Petroleum Industry; Process Heaters; Oil-fired	County data: SIC_295&9out adjust by AEO Refin TotPet
SIC_50&1-I30	30600103	5171	Industrial Processes; Petroleum Industry; Process Heaters; Oil-fired	County data: SIC_50&1-out adjust by AEO Refin TotPet

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC_131&2I26	30600104	1311	Industrial Processes; Petroleum Industry; Process Heaters; Gas-fired	County data: SIC_131&2out adjust by AEO Refin Ngas
SIC_204&7I26	30600104	2079	Industrial Processes; Petroleum Industry; Process Heaters; Gas-fired	County data: SIC_204&7out adjust by AEO Refin Ngas
SIC_291-I26	30600104	2911	Industrial Processes; Petroleum Industry; Process Heaters; Gas-fired	County data: SIC_291-out adjust by AEO Refin Ngas
SIC_295&9I26	30600104	2952	Industrial Processes; Petroleum Industry; Process Heaters; Gas-fired	County data: SIC_295&9out adjust by AEO Refin Ngas
SIC_295&9I26	30600104	2992	Industrial Processes; Petroleum Industry; Process Heaters; Gas-fired	County data: SIC_295&9out adjust by AEO Refin Ngas
SIC_331-I26	30600104	3312	Industrial Processes; Petroleum Industry; Process Heaters; Gas-fired	County data: SIC_331-out adjust by AEO Refin Ngas
CATEGORY50	30600104	4923	Industrial Processes; Petroleum Industry; Process Heaters; Gas-fired	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC_52+-I26	30600104	5541	Industrial Processes; Petroleum Industry; Process Heaters; Gas-fired	County data: SIC_52+-out adjust by AEO Refin Ngas
SIC_131&2I26	30600105	1311	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_131&2out adjust by AEO Refin Ngas
SIC_281&6I26	30600105	2819	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_281&6out adjust by AEO Refin Ngas
SIC_291-I26	30600105	2911	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_291-out adjust by AEO Refin Ngas
SIC_327-I26	30600105	3275	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_327-out adjust by AEO Refin Ngas
SIC_333-I26	30600105	3334	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_333-out adjust by AEO Refin Ngas
SIC_371-I26	30600105	3714	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_371-out adjust by AEO Refin Ngas
SIC_46-I26	30600105	4612	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_46-out adjust by AEO Refin Ngas
SIC_50&1-I26	30600105	5093	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_50&1-out adjust by AEO Refin Ngas
SIC_50&1-I26	30600105	5171	Industrial Processes; Petroleum Industry; Process Heaters; Natural Gas-fired	County data: SIC_50&1-out adjust by AEO Refin Ngas
SIC_281&6I28	30600106	2819	Industrial Processes; Petroleum Industry; Process Heaters; Process Gas-fired	County data: SIC_281&6out adjust by AEO Refin Sgas
CATEGORY27	30600106	2911	Industrial Processes; Petroleum Industry; Process Heaters; Process Gas-fired	County data: #27 in report; SIC_291-out with AEO Refin Sgas
SIC_291-I25	30600107	2911	Industrial Processes; Petroleum Industry; Process Heaters; LPG-fired	County data: SIC_291-out adjust by AEO Refin LPG
SIC_91-97I29	30600199	9199	Industrial Processes; Petroleum Industry; Process Heaters; Other Not Classified	County data: SIC_91-97out adjust by AEO Refin Total
SIC_291-I24	30600901	2911	Industrial Processes; Petroleum Industry; Flares; Distillate Oil	County data: SIC_291-out adjust by AEO Refin Dist
SIC_13-I26	30600903	1300	Industrial Processes; Petroleum Industry; Flares; Natural Gas	County data: SIC_13-out adjust by AEO Refin Ngas
SIC_131&2I26	30600903	1311	Industrial Processes; Petroleum Industry; Flares; Natural Gas	County data: SIC_131&2out adjust by AEO Refin Ngas
SIC_291-I26	30600903	2911	Industrial Processes; Petroleum Industry; Flares; Natural Gas	County data: SIC_291-out adjust by AEO Refin Ngas
CATEGORY50	30600903	4923	Industrial Processes; Petroleum Industry; Flares; Natural Gas	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC_131&2I28	30600904	1311	Industrial Processes; Petroleum Industry; Flares; Process Gas	County data: SIC_131&2out adjust by AEO Refin Sgas
SIC_291-I28	30600904	2911	Industrial Processes; Petroleum Industry; Flares; Process Gas	County data: SIC_291-out adjust by AEO Refin Sgas
SIC_131&2I25	30600905	1311	Industrial Processes; Petroleum Industry; Flares; Liquefied Petroleum Gas	County data: SIC_131&2out adjust by AEO Refin LPG
SIC_291-I26	30609903	2911	Industrial Processes; Petroleum Industry; Incinerators; Natural Gas	County data: SIC_291-out adjust by AEO Refin Ngas
SIC_50&1-I26	30609903	5171	Industrial Processes; Petroleum Industry; Incinerators; Natural Gas	County data: SIC_50&1-out adjust by AEO Refin Ngas
SIC_131&2I29	30609904	1311	Industrial Processes; Petroleum Industry; Incinerators; Process Gas	County data: SIC_131&2out adjust by AEO Refin Total
SIC_291-I29	30609904	2911	Industrial Processes; Petroleum Industry; Incinerators; Process Gas	County data: SIC_291-out adjust by AEO Refin Total
SIC_243-I23	30790003	2431	Industrial Processes; Pulp and Paper and Wood Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_243-out adjust by AEO Paper Ngas
SIC_265-I23	30790003	2656	Industrial Processes; Pulp and Paper and Wood Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_265-out adjust by AEO Paper Ngas
SIC_327-I23	30790003	3272	Industrial Processes; Pulp and Paper and Wood Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_327-out adjust by AEO Paper Ngas
SIC_347-I23	30790003	3479	Industrial Processes; Pulp and Paper and Wood Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_347-out adjust by AEO Paper Ngas
SIC_50&1-I20	30890003	5113	Industrial Processes; Rubber and Miscellaneous Plastics Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_50&1-out adjust by AEO OthMfg Ngas
SIC_302+-I20	30890013	3021	Industrial Processes; Rubber and Miscellaneous Plastics Products; Fuel Fired Equipment; Natural Gas: Incinerators	County data: SIC_302+-out adjust by AEO OthMfg Ngas
SIC_361-I20	30890013	3612	Industrial Processes; Rubber and Miscellaneous Plastics Products; Fuel Fired Equipment; Natural Gas: Incinerators	County data: SIC_361-out adjust by AEO OthMfg Ngas
SIC_227-I12	30990003	2273	Industrial Processes; Fabricated Metal Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_227-out adjust by AEO DurMet Ngas
SIC_325+-I12	30990003	3263	Industrial Processes; Fabricated Metal Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_325+-out adjust by AEO DurMet Ngas
SIC_331-I12	30990003	3317	Industrial Processes; Fabricated Metal Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_331-out adjust by AEO DurMet Ngas
SIC_334&9I12	30990003	3341	Industrial Processes; Fabricated Metal Products; Fuel Fired Equipment; Natural Gas: Process Heaters	County data: SIC_334&9out adjust by AEO DurMet Ngas
SIC_282-I12	30990013	2822	Industrial Processes; Fabricated Metal Products; Fuel Fired Equipment; Natural Gas: Incinerators	County data: SIC_282-out adjust by AEO DurMet Ngas
SIC_494+-I12	30990023	4952	Industrial Processes; Fabricated Metal Products; Fuel Fired Equipment; Natural Gas: Flares	County data: SIC_494+-out adjust by AEO DurMet Ngas
SIC_131&2I13	31000401	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Distillate Oil (No. 2)	County data: SIC_131&2out adjust by AEO Min Dist
SIC_735-I13	31000401	7359	Industrial Processes; Oil and Gas Production; Process Heaters; Distillate Oil (No. 2)	County data: SIC_735-out adjust by AEO Min Dist

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC_131&2116	31000402	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Residual Oil	County data: SIC_131&2out adjust by AEO Min Resid
SIC_46-116	31000402	4612	Industrial Processes; Oil and Gas Production; Process Heaters; Residual Oil	County data: SIC_46-out adjust by AEO Min Resid
SIC_131&2115	31000403	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Crude Oil	County data: SIC_131&2out adjust by AEO Min OthPet
SIC_46-115	31000403	4612	Industrial Processes; Oil and Gas Production; Process Heaters; Crude Oil	County data: SIC_46-out adjust by AEO Min OthPet
SIC_131&2114	31000404	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas	County data: SIC_131&2out adjust by AEO Min Ngas
SIC_131&2114	31000404	1321	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas	County data: SIC_131&2out adjust by AEO Min Ngas
SIC_46-114	31000404	4612	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas	County data: SIC_46-out adjust by AEO Min Ngas
CATEGORY22	31000404	4911	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY50	31000404	4923	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
SIC_50&1-114	31000404	5171	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas	County data: SIC_50&1-out adjust by AEO Min Ngas
SIC_131&2118	31000405	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Process Gas	County data: SIC_131&2out adjust by AEO Min Total
SIC_131&2113	31000411	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Distillate Oil (No. 2): Steam Generators	County data: SIC_131&2out adjust by AEO Min Dist
SIC_131&2116	31000412	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Residual Oil: Steam Generators	County data: SIC_131&2out adjust by AEO Min Resid
SIC_131&2115	31000413	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Crude Oil: Steam Generators	County data: SIC_131&2out adjust by AEO Min OthPet
SIC_131&2114	31000414	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas: Steam Generators	County data: SIC_131&2out adjust by AEO Min Ngas
SIC_131&2114	31000414	1321	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas: Steam Generators	County data: SIC_131&2out adjust by AEO Min Ngas
SIC_46-114	31000414	4612	Industrial Processes; Oil and Gas Production; Process Heaters; Natural Gas: Steam Generators	County data: SIC_46-out adjust by AEO Min Ngas
SIC_131&2118	31000415	1311	Industrial Processes; Oil and Gas Production; Process Heaters; Process Gas: Steam Generators	County data: SIC_131&2out adjust by AEO Min Total
SIC_341-112	31390003	3411	Industrial Processes; Electrical Equipment; Process Heaters; Natural Gas	County data: SIC_341-out adjust by AEO DurMet Ngas
SIC_344-112	31390003	3444	Industrial Processes; Electrical Equipment; Process Heaters; Natural Gas	County data: SIC_344-out adjust by AEO DurMet Ngas
SIC_347-112	31390003	3471	Industrial Processes; Electrical Equipment; Process Heaters; Natural Gas	County data: SIC_347-out adjust by AEO DurMet Ngas
SIC_324-16	39000201	3241	Industrial Processes; In-process Fuel Use; Bituminous Coal; Cement Kiln/Dryer (Bituminous Coal)	County data: SIC_324-out adjust by AEO Cem Scoal
SIC_324-140	39000289	3241	Industrial Processes; In-process Fuel Use; Bituminous Coal; General (Bituminous)	County data: SIC_324-out adjust by AEO Ind TotCoal
SIC_30-140	39000399	3079	Industrial Processes; In-process Fuel Use; Lignite; General	County data: SIC_30-out adjust by AEO Ind TotCoal
SIC_341-140	39000399	3411	Industrial Processes; In-process Fuel Use; Lignite; General	County data: SIC_341-out adjust by AEO Ind TotCoal
SIC_347-140	39000399	3471	Industrial Processes; In-process Fuel Use; Lignite; General	County data: SIC_347-out adjust by AEO Ind TotCoal
SIC_384-140	39000399	3842	Industrial Processes; In-process Fuel Use; Lignite; General	County data: SIC_384-out adjust by AEO Ind TotCoal
SIC_14-15	39000402	1453	Industrial Processes; In-process Fuel Use; Residual Oil; Cement Kiln/Dryer	County data: SIC_14-out adjust by AEO Cem Resid
SIC_327-15	39000402	3274	Industrial Processes; In-process Fuel Use; Residual Oil; Cement Kiln/Dryer	County data: SIC_327-out adjust by AEO Cem Resid
SIC_14-121	39000403	1422	Industrial Processes; In-process Fuel Use; Residual Oil; Lime Kiln	County data: SIC_14-out adjust by AEO OthMfg Resid
SIC_206-121	39000403	2063	Industrial Processes; In-process Fuel Use; Residual Oil; Lime Kiln	County data: SIC_206-out adjust by AEO OthMfg Resid
SIC_295&9121	39000403	2951	Industrial Processes; In-process Fuel Use; Residual Oil; Lime Kiln	County data: SIC_295&9out adjust by AEO OthMfg Resid
SIC_327-121	39000403	3274	Industrial Processes; In-process Fuel Use; Residual Oil; Lime Kiln	County data: SIC_327-out adjust by AEO OthMfg Resid
SIC_7-138	39000499	723	Industrial Processes; In-process Fuel Use; Residual Oil; General	County data: SIC_7-out adjust by AEO Ind Resid
SIC_14-138	39000499	1459	Industrial Processes; In-process Fuel Use; Residual Oil; General	County data: SIC_14-out adjust by AEO Ind Resid
SIC_295&9138	39000499	2951	Industrial Processes; In-process Fuel Use; Residual Oil; General	County data: SIC_295&9out adjust by AEO Ind Resid
SIC_321+-138	39000499	3211	Industrial Processes; In-process Fuel Use; Residual Oil; General	County data: SIC_321+-out adjust by AEO Ind Resid
SIC_325+-138	39000499	3297	Industrial Processes; In-process Fuel Use; Residual Oil; General	County data: SIC_325+-out adjust by AEO Ind Resid
SIC_295&9124	39000501	2951	Industrial Processes; In-process Fuel Use; Distillate Oil; Asphalt Dryer **	County data: SIC_295&9out adjust by AEO Refin Dist
SIC_295&913	39000502	2951	Industrial Processes; In-process Fuel Use; Distillate Oil; Cement Kiln/Dryer	County data: SIC_295&9out adjust by AEO Cem Dist
SIC_14-131	39000589	1422	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_14-out adjust by AEO Ind Dist
SIC_281&6131	39000589	2869	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_281&6out adjust by AEO Ind Dist
SIC_291-131	39000589	2911	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_291-out adjust by AEO Ind Dist
SIC_295&9131	39000589	2951	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_295&9out adjust by AEO Ind Dist
SIC_295&9131	39000589	2952	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_295&9out adjust by AEO Ind Dist
SIC_311+-131	39000589	3110	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_311+-out adjust by AEO Ind Dist
SIC_327-131	39000589	3275	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_327-out adjust by AEO Ind Dist
SIC_325+-131	39000589	3295	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_325+-out adjust by AEO Ind Dist
SIC_331-131	39000589	3312	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_331-out adjust by AEO Ind Dist
SIC_332-131	39000589	3325	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_332-out adjust by AEO Ind Dist
SIC_333-131	39000589	3334	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_333-out adjust by AEO Ind Dist
SIC_334&9131	39000589	3341	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_334&9out adjust by AEO Ind Dist

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC_341-131	39000589	3411	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_341-out adjust by AEO Ind Dist
SIC_346-131	39000589	3466	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_346-out adjust by AEO Ind Dist
SIC_346-131	39000589	3469	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_346-out adjust by AEO Ind Dist
SIC_347-131	39000589	3471	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_347-out adjust by AEO Ind Dist
SIC_347-131	39000589	3479	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_347-out adjust by AEO Ind Dist
SIC_353-131	39000589	3532	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_353-out adjust by AEO Ind Dist
SIC_366-131	39000589	3669	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_366-out adjust by AEO Ind Dist
SIC_371-131	39000589	3711	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_371-out adjust by AEO Ind Dist
SIC_41-131	39000589	4111	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_41-out adjust by AEO Ind Dist
SIC_45-131	39000589	4512	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_45-out adjust by AEO Ind Dist
SIC_494+-131	39000589	4953	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_494+-out adjust by AEO Ind Dist
SIC_50&1-131	39000589	5085	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_50&1-out adjust by AEO Ind Dist
SIC_50&1-131	39000589	5093	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_50&1-out adjust by AEO Ind Dist
SIC_494+-131	39000598	4952	Industrial Processes; In-process Fuel Use; Distillate Oil; Grade 4 Oil; General	County data: SIC_494+-out adjust by AEO Ind Dist
SIC_7-131	39000599	723	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_7-out adjust by AEO Ind Dist
SIC_14-131	39000599	1474	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_14-out adjust by AEO Ind Dist
SIC_206-131	39000599	2063	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_206-out adjust by AEO Ind Dist
SIC_267-131	39000599	2676	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_267-out adjust by AEO Ind Dist
SIC_287-131	39000599	2879	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_287-out adjust by AEO Ind Dist
SIC_295&9I31	39000599	2951	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_295&9out adjust by AEO Ind Dist
SIC_295&9I31	39000599	2992	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_295&9out adjust by AEO Ind Dist
SIC_321+-131	39000599	3221	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_321+-out adjust by AEO Ind Dist
SIC_325+-131	39000599	3259	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_325+-out adjust by AEO Ind Dist
SIC_327-131	39000599	3275	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_327-out adjust by AEO Ind Dist
SIC_325+-131	39000599	3292	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_325+-out adjust by AEO Ind Dist
SIC_325+-131	39000599	3295	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_325+-out adjust by AEO Ind Dist
SIC_325+-131	39000599	3296	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_325+-out adjust by AEO Ind Dist
SIC_357-131	39000599	3573	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_357-out adjust by AEO Ind Dist
SIC_358-131	39000599	3589	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_358-out adjust by AEO Ind Dist
NONGAS_UTIL	39000599	4911	Industrial Processes; In-process Fuel Use; Distillate Oil; General	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_50&1-131	39000599	5149	Industrial Processes; In-process Fuel Use; Distillate Oil; General	County data: SIC_50&1-out adjust by AEO Ind Dist
SIC_275&6I4	39000602	2759	Industrial Processes; In-process Fuel Use; Natural Gas; Cement Kiln/Dryer	County data: SIC_275&6out adjust by AEO Cem Ngas
SIC_324-14	39000602	3241	Industrial Processes; In-process Fuel Use; Natural Gas; Cement Kiln/Dryer	County data: SIC_324-out adjust by AEO Cem Ngas
SIC_327-14	39000602	3271	Industrial Processes; In-process Fuel Use; Natural Gas; Cement Kiln/Dryer	County data: SIC_327-out adjust by AEO Cem Ngas
SIC_327-14	39000602	3272	Industrial Processes; In-process Fuel Use; Natural Gas; Cement Kiln/Dryer	County data: SIC_327-out adjust by AEO Cem Ngas
SIC_327-14	39000602	3273	Industrial Processes; In-process Fuel Use; Natural Gas; Cement Kiln/Dryer	County data: SIC_327-out adjust by AEO Cem Ngas
SIC_295&9I20	39000603	2951	Industrial Processes; In-process Fuel Use; Natural Gas; Lime Kiln	County data: SIC_295&9out adjust by AEO OthMfg Ngas
SIC_327-120	39000603	3274	Industrial Processes; In-process Fuel Use; Natural Gas; Lime Kiln	County data: SIC_327-out adjust by AEO OthMfg Ngas
SIC_494+-120	39000603	4941	Industrial Processes; In-process Fuel Use; Natural Gas; Lime Kiln	County data: SIC_494+-out adjust by AEO OthMfg Ngas
SIC_7-135	39000689	723	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_7-out adjust by AEO Ind Ngas
SIC_14-135	39000689	1446	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_14-out adjust by AEO Ind Ngas
SIC_14-135	39000689	1474	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_14-out adjust by AEO Ind Ngas
SIC_204&7I35	39000689	2044	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_204&7out adjust by AEO Ind Ngas
SIC_205-135	39000689	2051	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_205-out adjust by AEO Ind Ngas
SIC_206-135	39000689	2063	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_206-out adjust by AEO Ind Ngas
SIC_206-135	39000689	2066	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_206-out adjust by AEO Ind Ngas
SIC_244&9I35	39000689	2492	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_244&9out adjust by AEO Ind Ngas
SIC_254-135	39000689	2542	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_254-out adjust by AEO Ind Ngas
SIC_265-135	39000689	2655	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_265-out adjust by AEO Ind Ngas
SIC_267-135	39000689	2676	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_267-out adjust by AEO Ind Ngas
SIC_267-135	39000689	2679	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_267-out adjust by AEO Ind Ngas
SIC_275&6I35	39000689	2759	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_275&6out adjust by AEO Ind Ngas
SIC_281&6I35	39000689	2813	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_281&6out adjust by AEO Ind Ngas
SIC_282-135	39000689	2821	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_282-out adjust by AEO Ind Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 291-135	39000689	2911	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 291-out adjust by AEO Ind Ngas
SIC 295&9135	39000689	2951	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 295&9out adjust by AEO Ind Ngas
SIC 295&9135	39000689	2952	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 295&9out adjust by AEO Ind Ngas
SIC 308-135	39000689	3083	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 308-out adjust by AEO Ind Ngas
SIC 321+-135	39000689	3229	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 321+-out adjust by AEO Ind Ngas
SIC 325+-135	39000689	3251	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 325+-out adjust by AEO Ind Ngas
SIC 325+-135	39000689	3259	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 325+-out adjust by AEO Ind Ngas
SIC 327-135	39000689	3275	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 327-out adjust by AEO Ind Ngas
SIC 325+-135	39000689	3299	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 325+-out adjust by AEO Ind Ngas
SIC 331-135	39000689	3312	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 331-out adjust by AEO Ind Ngas
SIC 332-135	39000689	3321	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 332-out adjust by AEO Ind Ngas
SIC 333-135	39000689	3334	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 333-out adjust by AEO Ind Ngas
SIC 334&9135	39000689	3341	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 334&9out adjust by AEO Ind Ngas
SIC 334&9135	39000689	3398	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 334&9out adjust by AEO Ind Ngas
SIC 341-135	39000689	3411	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 341-out adjust by AEO Ind Ngas
SIC 346-135	39000689	3462	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 346-out adjust by AEO Ind Ngas
SIC 347-135	39000689	3479	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 347-out adjust by AEO Ind Ngas
SIC 354-135	39000689	3542	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 354-out adjust by AEO Ind Ngas
SIC 366-135	39000689	3669	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 366-out adjust by AEO Ind Ngas
SIC 369-135	39000689	3691	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 369-out adjust by AEO Ind Ngas
SIC 372&6135	39000689	3728	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 372&6out adjust by AEO Ind Ngas
SIC 394-135	39000689	3949	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 394-out adjust by AEO Ind Ngas
SIC 41-135	39000689	4121	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 41-out adjust by AEO Ind Ngas
CATEGORY22	39000689	4911	Industrial Processes; In-process Fuel Use; Natural Gas; General	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
SIC 494+-135	39000689	4952	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 494+-out adjust by AEO Ind Ngas
SIC 50&1-135	39000689	5088	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 52+-135	39000689	5511	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 52+-out adjust by AEO Ind Ngas
SIC 65-135	39000689	6552	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 65-out adjust by AEO Ind Ngas
SIC 726-135	39000689	7261	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 726-out adjust by AEO Ind Ngas
SIC 752-4135	39000689	7532	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 752-4out adjust by AEO Ind Ngas
SIC 91-97135	39000689	9511	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 91-97out adjust by AEO Ind Ngas
SIC 7-135	39000699	723	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 7-out adjust by AEO Ind Ngas
SIC 7-135	39000699	724	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 7-out adjust by AEO Ind Ngas
SIC_131&2135	39000699	1311	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_131&2out adjust by AEO Ind Ngas
SIC 14-135	39000699	1442	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 14-out adjust by AEO Ind Ngas
SIC_14-135	39000699	1446	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC_14-out adjust by AEO Ind Ngas
SIC 14-135	39000699	1453	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 14-out adjust by AEO Ind Ngas
SIC 14-135	39000699	1459	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 14-out adjust by AEO Ind Ngas
SIC 15-17135	39000699	1761	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 15-17out adjust by AEO Ind Ngas
SIC 201-135	39000699	2011	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 201-out adjust by AEO Ind Ngas
SIC 202-135	39000699	2021	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 202-out adjust by AEO Ind Ngas
SIC 202-135	39000699	2022	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 202-out adjust by AEO Ind Ngas
SIC 203-135	39000699	2034	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 203-out adjust by AEO Ind Ngas
SIC 204&7135	39000699	2043	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 204&7out adjust by AEO Ind Ngas
SIC 204&7135	39000699	2044	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 204&7out adjust by AEO Ind Ngas
SIC 204&7135	39000699	2046	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 204&7out adjust by AEO Ind Ngas
SIC 204&7135	39000699	2048	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 204&7out adjust by AEO Ind Ngas
SIC 205-135	39000699	2051	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 205-out adjust by AEO Ind Ngas
SIC 206-135	39000699	2062	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 206-out adjust by AEO Ind Ngas
SIC 206-135	39000699	2063	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 206-out adjust by AEO Ind Ngas
SIC 206-135	39000699	2066	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 206-out adjust by AEO Ind Ngas
SIC 204&7135	39000699	2074	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 204&7out adjust by AEO Ind Ngas
SIC 204&7135	39000699	2076	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 204&7out adjust by AEO Ind Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC 375&9135	39000699	3795	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 375&9out adjust by AEO Ind Ngas
SIC 381-135	39000699	3811	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 381-out adjust by AEO Ind Ngas
SIC 382-135	39000699	3829	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 382-out adjust by AEO Ind Ngas
SIC 384-135	39000699	3842	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 384-out adjust by AEO Ind Ngas
SIC 393+-135	39000699	3996	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 393+-out adjust by AEO Ind Ngas
SIC 393+-135	39000699	3999	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 393+-out adjust by AEO Ind Ngas
SIC 45-135	39000699	4581	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 45-out adjust by AEO Ind Ngas
CATEGORY22	39000699	4911	Industrial Processes; In-process Fuel Use; Natural Gas; General	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	39000699	4922	Industrial Processes; In-process Fuel Use; Natural Gas; General	Cty/State data: #50 in report; SIC_131&2out & SIC 492&3emp
CATEGORY22	39000699	4931	Industrial Processes; In-process Fuel Use; Natural Gas; General	#22 in report; post-2000: CEC nat gas & regress SIC 491&3out
CATEGORY50	39000699	4939	Industrial Processes; In-process Fuel Use; Natural Gas; General	Cty/State data: #50 in report; SIC_131&2out & SIC 492&3emp
SIC 494+-135	39000699	4952	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 494+-out adjust by AEO Ind Ngas
CATEGORY50	39000699	4961	Industrial Processes; In-process Fuel Use; Natural Gas; General	Cty/State data: #50 in report; SIC_131&2out & SIC 492&3emp
SIC 50&1-135	39000699	5012	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 50&1-135	39000699	5084	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 50&1-135	39000699	5087	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 50&1-135	39000699	5088	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 50&1-135	39000699	5153	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 50&1-135	39000699	5159	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 50&1-135	39000699	5171	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 50&1-out adjust by AEO Ind Ngas
SIC 65-135	39000699	6553	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 65-out adjust by AEO Ind Ngas
SIC 70-135	39000699	7011	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 70-out adjust by AEO Ind Ngas
SIC 721&5135	39000699	7218	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 721&5out adjust by AEO Ind Ngas
SIC 721&5135	39000699	7219	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 721&5out adjust by AEO Ind Ngas
SIC 726-135	39000699	7261	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 726-out adjust by AEO Ind Ngas
SIC 732+-135	39000699	7331	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 732+-out adjust by AEO Ind Ngas
SIC 752-4135	39000699	7532	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 752-4out adjust by AEO Ind Ngas
SIC 752-4135	39000699	7538	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 752-4out adjust by AEO Ind Ngas
SIC 769-135	39000699	7694	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 769-out adjust by AEO Ind Ngas
SIC 806-135	39000699	8062	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 806-out adjust by AEO Ind Ngas
SIC 84-135	39000699	8412	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 84-out adjust by AEO Ind Ngas
SIC 86-135	39000699	8699	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 86-out adjust by AEO Ind Ngas
SIC 873-135	39000699	8731	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 873-out adjust by AEO Ind Ngas
SIC 874-135	39000699	8743	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 874-out adjust by AEO Ind Ngas
SIC 872+-135	39000699	8922	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: SIC 872+-out adjust by AEO Ind Ngas
FED_MIL-135	39000699	9711	Industrial Processes; In-process Fuel Use; Natural Gas; General	County data: FED_MIL-out adjust by AEO Ind Ngas
SIC 494+-141	39000797	4952	Industrial Processes; In-process Fuel Use; Process Gas; General	County data: SIC 494+-out adjust by AEO Ind Total
SIC 281&6141	39000799	2819	Industrial Processes; In-process Fuel Use; Process Gas; General	County data: SIC 281&6out adjust by AEO Ind Total
NONGAS_UTIL	39000799	4931	Industrial Processes; In-process Fuel Use; Process Gas; General	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC 494+-141	39000799	4952	Industrial Processes; In-process Fuel Use; Process Gas; General	County data: SIC 494+-out adjust by AEO Ind Total
SIC 206-133	39000889	2063	Industrial Processes; In-process Fuel Use; Coke; General	County data: SIC 206-out adjust by AEO Ind Mcoal
SIC 332-133	39000889	3321	Industrial Processes; In-process Fuel Use; Coke; General	County data: SIC 332-out adjust by AEO Ind Mcoal
SIC 206-133	39000899	2063	Industrial Processes; In-process Fuel Use; Coke; General: Coke	County data: SIC 206-out adjust by AEO Ind Mcoal
SIC 291-133	39000899	2911	Industrial Processes; In-process Fuel Use; Coke; General: Coke	County data: SIC 291-out adjust by AEO Ind Mcoal
SIC 324-133	39000899	3241	Industrial Processes; In-process Fuel Use; Coke; General: Coke	County data: SIC 324-out adjust by AEO Ind Mcoal
SIC 332-133	39000899	3321	Industrial Processes; In-process Fuel Use; Coke; General: Coke	County data: SIC 332-out adjust by AEO Ind Mcoal
SIC 283-137	39000999	2831	Industrial Processes; In-process Fuel Use; Wood; General: Wood	County data: SIC 283-out adjust by AEO Ind Renew
SIC 873-137	39000999	8731	Industrial Processes; In-process Fuel Use; Wood; General: Wood	County data: SIC 873-out adjust by AEO Ind Renew
SIC 14-132	39001089	1429	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: SIC 14-out adjust by AEO Ind LPG

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC_14-132	39001089	1459	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: SIC_14-out adjust by AEO Ind LPG
SIC_14-132	39001089	1499	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: SIC_14-out adjust by AEO Ind LPG
SIC_295&9132	39001089	2951	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: SIC_295&9out adjust by AEO Ind LPG
SIC_7-132	39001099	723	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: SIC_7-out adjust by AEO Ind LPG
SIC_7-132	39001099	724	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: SIC_7-out adjust by AEO Ind LPG
SIC_281&6132	39001099	2819	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: SIC_281&6out adjust by AEO Ind LPG
SIC_325+-132	39001099	3295	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: SIC_325+-out adjust by AEO Ind LPG
FED_MIL-132	39001099	9711	Industrial Processes; In-process Fuel Use; Liquefied Petroleum Gas; General	County data: FED_MIL-out adjust by AEO Ind LPG
SIC_7-137	39001299	742	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_7-out adjust by AEO Ind Renew
SIC_283-137	39001299	2833	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_283-out adjust by AEO Ind Renew
SIC_281&6137	39001299	2869	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_281&6out adjust by AEO Ind Renew
SIC_287-137	39001299	2879	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_287-out adjust by AEO Ind Renew
SIC_291-137	39001299	2911	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_291-out adjust by AEO Ind Renew
SIC_372&6137	39001299	3761	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_372&6out adjust by AEO Ind Renew
SIC_372&6137	39001299	3764	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_372&6out adjust by AEO Ind Renew
NONGAS_UTIL	39001299	4911	Industrial Processes; In-process Fuel Use; Solid Waste; General	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
SIC_494+-137	39001299	4952	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_494+-out adjust by AEO Ind Renew
SIC_65-137	39001299	6553	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_65-out adjust by AEO Ind Renew
SIC_726-137	39001299	7261	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_726-out adjust by AEO Ind Renew
SIC_805-137	39001299	8051	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_805-out adjust by AEO Ind Renew
SIC_806-137	39001299	8062	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_806-out adjust by AEO Ind Renew
SIC_873-137	39001299	8731	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_873-out adjust by AEO Ind Renew
SIC_91-97137	39001299	9511	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: SIC_91-97out adjust by AEO Ind Renew
FED_MIL-137	39001299	9711	Industrial Processes; In-process Fuel Use; Solid Waste; General	County data: FED_MIL-out adjust by AEO Ind Renew
SIC_201-119	39900501	2015	Industrial Processes; Miscellaneous Manufacturing Industries; Process Heater/Furnace; Distillate Oil	County data: SIC_201-out adjust by AEO OthMfg Dist
SIC_327-120	39900601	3271	Industrial Processes; Miscellaneous Manufacturing Industries; Process Heater/Furnace; Natural Gas	County data: SIC_327-out adjust by AEO OthMfg Ngas
SIC_14-119	39990001	1422	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Distillate Oil (No. 2); Process Heaters	County data: SIC_14-out adjust by AEO OthMfg Dist
SIC_295&9119	39990001	2951	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Distillate Oil (No. 2); Process Heaters	County data: SIC_295&9out adjust by AEO OthMfg Dist
SIC_494+-119	39990001	4941	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Distillate Oil (No. 2); Process Heaters	County data: SIC_494+-out adjust by AEO OthMfg Dist
SIC_239-120	39990003	2396	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_239-out adjust by AEO OthMfg Ngas
SIC_275&6120	39990003	2761	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_275&6out adjust by AEO OthMfg Ngas
SIC_283-120	39990003	2834	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_283-out adjust by AEO OthMfg Ngas
SIC_284-120	39990003	2841	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_284-out adjust by AEO OthMfg Ngas
SIC_354-120	39990003	3542	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_354-out adjust by AEO OthMfg Ngas
SIC_359-120	39990003	3599	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_359-out adjust by AEO OthMfg Ngas
SIC_372&6120	39990003	3728	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_372&6out adjust by AEO OthMfg Ngas
CATEGORY22	39990003	4911	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
SIC_494+-120	39990003	4952	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_494+-out adjust by AEO OthMfg Ngas
SIC_65-120	39990003	6512	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_65-out adjust by AEO OthMfg Ngas
SIC_721&5120	39990003	7218	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas; Process Heaters	County data: SIC_721&5out adjust by AEO OthMfg Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC_206-I20	39990013	2064	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Incinerators	County data: SIC_206-out adjust by AEO OthMfg Ngas
SIC_282-I20	39990013	2821	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Incinerators	County data: SIC_282-out adjust by AEO OthMfg Ngas
SIC_302+-I20	39990013	3021	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Incinerators	County data: SIC_302+-out adjust by AEO OthMfg Ngas
SIC_356-I20	39990013	3567	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Incinerators	County data: SIC_356-out adjust by AEO OthMfg Ngas
SIC_769-I20	39990013	7694	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Incinerators	County data: SIC_769-out adjust by AEO OthMfg Ngas
SIC_806-I20	39990013	8062	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Incinerators	County data: SIC_806-out adjust by AEO OthMfg Ngas
FED_MIL-I20	39990013	9711	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Incinerators	County data: FED_MIL-out adjust by AEO OthMfg Ngas
SIC_131&2I20	39990023	1311	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Flares	County data: SIC_131&2out adjust by AEO OthMfg Ngas
SIC_295&9I20	39990023	2992	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Flares	County data: SIC_295&9out adjust by AEO OthMfg Ngas
SIC_331-I20	39990023	3312	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Flares	County data: SIC_331-out adjust by AEO OthMfg Ngas
SIC_494+-I20	39990023	4952	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Flares	County data: SIC_494+-out adjust by AEO OthMfg Ngas
SIC_494+-I20	39990023	4953	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Flares	County data: SIC_494+-out adjust by AEO OthMfg Ngas
SIC_50&1-I20	39990023	5171	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Flares	County data: SIC_50&1-out adjust by AEO OthMfg Ngas
SIC_82-I20	39990023	8221	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Natural Gas: Flares	County data: SIC_82-out adjust by AEO OthMfg Ngas
SIC_494+-I22	39990024	4952	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Process Gas: Flares	County data: SIC_494+-out adjust by AEO OthMfg Total
SIC_494+-I22	39990024	4953	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Process Gas: Flares	County data: SIC_494+-out adjust by AEO OthMfg Total
SIC_91-97I22	39990024	9511	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Process Gas: Flares	County data: SIC_91-97out adjust by AEO OthMfg Total
SIC_91-97I22	39990024	9631	Industrial Processes; Miscellaneous Manufacturing Industries; Miscellaneous Manufacturing Industries; Process Gas: Flares	County data: SIC_91-97out adjust by AEO OthMfg Total
SIC_131&2I35	40201001	1311	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_131&2out adjust by AEO Ind Ngas
SIC_203-I35	40201001	2032	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_203-out adjust by AEO Ind Ngas
SIC_203-I35	40201001	2033	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_203-out adjust by AEO Ind Ngas
SIC_205-I35	40201001	2052	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_205-out adjust by AEO Ind Ngas
SIC_209-I35	40201001	2091	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_209-out adjust by AEO Ind Ngas
SIC_209-I35	40201001	2096	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_209-out adjust by AEO Ind Ngas
SIC_225-I35	40201001	2258	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_225-out adjust by AEO Ind Ngas
SIC_221+-I35	40201001	2261	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_221+-out adjust by AEO Ind Ngas
SIC_221+-I35	40201001	2262	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_221+-out adjust by AEO Ind Ngas
SIC_227-I35	40201001	2273	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_227-out adjust by AEO Ind Ngas
SIC_229-I35	40201001	2295	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_229-out adjust by AEO Ind Ngas
SIC_239-I35	40201001	2396	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_239-out adjust by AEO Ind Ngas
SIC_244&9I35	40201001	2449	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_244&9out adjust by AEO Ind Ngas
SIC_251-I35	40201001	2511	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_251-out adjust by AEO Ind Ngas
SIC_251-I35	40201001	2512	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_251-out adjust by AEO Ind Ngas
SIC_251-I35	40201001	2514	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_251-out adjust by AEO Ind Ngas
SIC_252+-I35	40201001	2521	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_252+-out adjust by AEO Ind Ngas
SIC_252+-I35	40201001	2522	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_252+-out adjust by AEO Ind Ngas
SIC_252+-I35	40201001	2531	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Natural Gas	County data: SIC_252+-out adjust by AEO Ind Ngas

Table II-4 (continued)

GROWTH PARAMETER	SCC	SIC	SCC DESCRIPTION	PARAMETER COMMENT
SIC_91-97I32	40201004	9199	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Liquefied Petroleum Gas (LPG)	County data: SIC_91-97out adjust by AEO Ind LPG
SIC_91-97I32	40201004	9223	Petroleum and Solvent Evaporation; Surface Coating Operations; Coating Oven Heater; Liquefied Petroleum Gas (LPG)	County data: SIC_91-97out adjust by AEO Ind LPG
SIC_203-I35	40290013	2032	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_203-out adjust by AEO Ind Ngas
SIC_244&9I35	40290013	2449	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_244&9out adjust by AEO Ind Ngas
SIC_252+-I35	40290013	2522	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_252+-out adjust by AEO Ind Ngas
SIC_275&6I35	40290013	2752	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_275&6out adjust by AEO Ind Ngas
SIC_275&6I35	40290013	2759	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_275&6out adjust by AEO Ind Ngas
SIC_283-I35	40290013	2834	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_283-out adjust by AEO Ind Ngas
SIC_289-I35	40290013	2891	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_289-out adjust by AEO Ind Ngas
SIC_308-I35	40290013	3083	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_308-out adjust by AEO Ind Ngas
SIC_341-I35	40290013	3411	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_341-out adjust by AEO Ind Ngas
SIC_347-I35	40290013	3471	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_347-out adjust by AEO Ind Ngas
SIC_356-I35	40290013	3568	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_356-out adjust by AEO Ind Ngas
SIC_362-I35	40290013	3624	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_362-out adjust by AEO Ind Ngas
SIC_371-I35	40290013	3713	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_371-out adjust by AEO Ind Ngas
SIC_371-I35	40290013	3714	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_371-out adjust by AEO Ind Ngas
SIC_732+-I35	40290013	7389	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_732+-out adjust by AEO Ind Ngas
SIC_806-I35	40290013	8062	Petroleum and Solvent Evaporation; Surface Coating Operations; Fuel Fired Equipment; Natural Gas: Incinerator/Afterburner	County data: SIC_806-out adjust by AEO Ind Ngas
SIC_272-I35	49090013	2721	Petroleum and Solvent Evaporation; Organic Solvent Evaporation; Fuel Fired Equipment; Natural Gas: Incinerators	County data: SIC_272-out adjust by AEO Ind Ngas
SIC_91-97I35	49090013	9223	Petroleum and Solvent Evaporation; Organic Solvent Evaporation; Fuel Fired Equipment; Natural Gas: Incinerators	County data: SIC_91-97out adjust by AEO Ind Ngas
SIC_50&1-I35	49090023	5171	Petroleum and Solvent Evaporation; Organic Solvent Evaporation; Fuel Fired Equipment; Natural Gas: Flares	County data: SIC_50&1-out adjust by AEO Ind Ngas
SIC_494+-C2	50190005	4952	Waste Disposal; Solid Waste Disposal - Government; Auxillary Fuel/No Emissions; Distillate Oil	County data: SIC_494+-out adjust by AEO Comm Dist
SIC_494+-C5	50190006	4941	Waste Disposal; Solid Waste Disposal - Government; Auxillary Fuel/No Emissions; Natural Gas	County data: SIC_494+-out adjust by AEO Comm Ngas
SIC_494+-C5	50190006	4952	Waste Disposal; Solid Waste Disposal - Government; Auxillary Fuel/No Emissions; Natural Gas	County data: SIC_494+-out adjust by AEO Comm Ngas
SIC_494+-C5	50290006	4952	Waste Disposal; Solid Waste Disposal - Commercial/Institutional; Auxillary Fuel/No Emissions; Natural Gas	County data: SIC_494+-out adjust by AEO Comm Ngas
SIC_726-C5	50290006	7261	Waste Disposal; Solid Waste Disposal - Commercial/Institutional; Auxillary Fuel/No Emissions; Natural Gas	County data: SIC_726-out adjust by AEO Comm Ngas
SIC_806-C5	50290006	8062	Waste Disposal; Solid Waste Disposal - Commercial/Institutional; Auxillary Fuel/No Emissions; Natural Gas	County data: SIC_806-out adjust by AEO Comm Ngas
SIC_291-I35	50390006	2911	Waste Disposal; Solid Waste Disposal - Industrial; Auxillary Fuel/No Emissions; Natural Gas	County data: SIC_291-out adjust by AEO Ind Ngas
SIC_308-I35	50390006	3083	Waste Disposal; Solid Waste Disposal - Industrial; Auxillary Fuel/No Emissions; Natural Gas	County data: SIC_308-out adjust by AEO Ind Ngas

Table II-5. Non-Mobile Area Source Growth Parameter Assignments

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
CATEGORY24	2099500120000	2099500120000	Cogeneration; Other; Fuel (Unspecified)	County/State data: #24 in report; SIC_491&3out & DUR_MFG-emp
CATEGORY25	3004001000000	3004001000000	Oil And Gas Production (Combustion); I.C. Reciprocating Engines; Gaseous Fuel (Unspecified)	Cty data: #25 in rept; SIC_13-out adjust by AEO Ind Dist
SIC_13-I17	3004010000000	3004010000000	Oil And Gas Production (Combustion); I.C. Reciprocating Engines; Liquid Fuel (Unspecified)	County data: SIC_13-out adjust by AEO Ind Petrol
SIC_13-I13	3006012100000	3006012100000	Oil And Gas Production (Combustion); Drilling Rigs; Diesel (Unspecified)	County data: SIC_13-out adjust by AEO Ind Dist
SIC_13-I13	3006512100000	3006512100000	Oil And Gas Production (Combustion); Workover Rigs; Diesel (Unspecified)	County data: SIC_13-out adjust by AEO Ind Dist
SIC_20-39I41	5004000120000	5004000120000	Manufacturing And Industrial; I.C. Reciprocating Engines; Fuel (Unspecified)	County data: SIC_20-39out adjust by AEO Ind Total
CATEGORY28	5004001100000	5004001100000	Manufacturing And Industrial; I.C. Reciprocating Engines; Natural Gas	Cty data: #28 in report; SIC_20-39out adjust by AEO Ind Ngas
SIC_20-39I31	5004012000000	5004012000000	Manufacturing And Industrial; I.C. Reciprocating Engines; Diesel/Distillate Oil (Unspecified)	County data: SIC_20-39out adjust by AEO Ind Dist
CATEGORY29	5099501100000	5099501100000	Manufacturing And Industrial; Other; Natural Gas	Cty data: #29 in report; SIC_20-39out adjust by AEO Ind Ngas
SIC_20-39I32	5099501200000	5099501200000	Manufacturing And Industrial; Other; Liquified Petroleum Gas (Lpg)	County data: SIC_20-39out adjust by AEO Ind LPG
SIC_20-39I31	5099512200000	5099512200000	Manufacturing And Industrial; Other; Distillate Oil (Unspecified)	County data: SIC_20-39out adjust by AEO Ind Dist
CATEGORY30	5099515000000	5099515000000	Manufacturing And Industrial; Other; Residual Oil (Unspecified)	Cty data: #30 in rept; SIC_20-39out adjust by AEO Ind Resid
CATEGORY31	5204212000000	5204212000000	Food And Agricultural Processing; Ag. Irrigation I.C. Engines; Diesel/Distillate Oil (Unspecified)	Cty data: #31 in rept; SIC_01&02out adjust by AEO Agric Dist
CATEGORY32	5299510000000	5299510000000	Food And Agricultural Processing; Other; Liquid Fuel (Unspecified)	Cty data: #32 in rept; SIC_01&02out adjust by AEO Agr Petrol
CATEGORY33	6002001100000	6002001100000	Service And Commercial; Space Heating; Natural Gas	Cty data: #33 in rept; SIC_70-89out adjust by AEO Comm Ngas
CATEGORY33	6003001100000	6003001100000	Service And Commercial; Water Heating; Natural Gas	Cty data: #33 in rept; SIC_70-89out adjust by AEO Comm Ngas
CATEGORY33	6099501100000	6099501100000	Service And Commercial; Other; Natural Gas	Cty data: #33 in rept; SIC_70-89out adjust by AEO Comm Ngas
SIC_70-89C3	6099501200000	6099501200000	Service And Commercial; Other; Liquified Petroleum Gas (Lpg)	County data: SIC_70-89out adjust by AEO Comm LPG
CATEGORY34	6099512200000	6099512200000	Service And Commercial; Other; Distillate Oil (Unspecified)	Cty data: #34 in rept; SIC_70-89out adjust by AEO Comm Dist
SIC_70-89C7	6099515000000	6099515000000	Service And Commercial; Other; Residual Oil (Unspecified)	County data: SIC_70-89out adjust by AEO Comm Resid
GRP_AEO_T1	9908000120000	9908000120000	Other (Fuel Combustion); Resource Recovery; Fuel (Unspecified)	County data: GRP(bil 92\$) adjust by AEO Total Renew
GRP_AEO_T2	9999500120000	9999500120000	Other (Fuel Combustion); Other; Fuel (Unspecified)	County data: GRP(bil 92\$) adjust by AEO Total Energy
CATEGORY35	12012202420000	12012202420000	Landfills; Class II And III Landfills; Municipal Solid Waste (MSW)	County data: #35 in report; IWMB and regress GRP(bil 92\$)
POPULATION	19919003000000	19919003000000	Other (Waste Disposal); Volatile Organic Waste Disposal (Evaporation); Liquid Waste (Unspecified)	County data: Population (thousands)
POPULATION	19999502600000	19999502600000	Other (Waste Disposal); Other; Biological Waste (Unspecified)	County data: Population (thousands)
POPULATION	21020033000000	21020033000000	Laundrying; Dry Cleaning; Perchloroethylene	County data: Population (thousands)
POPULATION	21020081020000	21020081020000	Laundrying; Dry Cleaning; Synthetic (Halogenated Organic) Degreasing Solvents (Unspec)	County data: Population (thousands)
POPULATION	21020081500000	21020081500000	Laundrying; Dry Cleaning; Non-Synthetic (Petroleum Based) Degreasing Solvents (Unspec)	County data: Population (thousands)
CATEGORY36	22020405000000	22020405000000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Petroleum Naphtha	Cty/State data: #36 in report; SIC_752-4emp & SIC_20-39out
SIC_20-39out	22020430220000	22020430220000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Alcohols (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020430830000	22020430830000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Chlorofluorocarbons (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020431760000	22020431760000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Glycol Ethers (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020432040000	22020432040000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Ketones (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020432460000	22020432460000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Methylene Chloride (Dichloromethane)	County data: Manufacturing output
SIC_20-39out	22020433330000	22020433330000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Terpenes (Unspecified)	County data: Manufacturing output

Table II-5 (continued)

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
SIC_20-39out	22020433390000	22020433390000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Toluene/Xylene	County data: Manufacturing output
SIC_20-39out	22020433440000	22020433440000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); 1,1,1,-Trichloroethane (Tca)	County data: Manufacturing output
SIC_20-39out	22020481040000	22020481040000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Degreasing Solvents - Pure (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020481060000	22020481060000	Degreasing; Cold Cleaning (Batch, Conveyor, Spray Gun); Degreasing Solvents - Blends (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020630830000	22020630830000	Degreasing; Vapor Degreasing (Batch, Conveyor); Chlorofluorocarbons (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020631070000	22020631070000	Degreasing; Vapor Degreasing (Batch, Conveyor); Dichlorofluoroethane (Hcfc-141B)	County data: Manufacturing output
SIC_20-39out	22020633000000	22020633000000	Degreasing; Vapor Degreasing (Batch, Conveyor); Perchloroethylene	County data: Manufacturing output
SIC_20-39out	22020633010000	22020633010000	Degreasing; Vapor Degreasing (Batch, Conveyor); Perfluorocarbons (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020633440000	22020633440000	Degreasing; Vapor Degreasing (Batch, Conveyor); 1,1,1,-Trichloroethane (Tca)	County data: Manufacturing output
SIC_20-39out	22020633460000	22020633460000	Degreasing; Vapor Degreasing (Batch, Conveyor); Trichloroethylene (Tce)	County data: Manufacturing output
SIC_20-39out	22020681060000	22020681060000	Degreasing; Vapor Degreasing (Batch, Conveyor); Degreasing Solvents - Blends (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020805000000	22020805000000	Degreasing; Handwiping; Petroleum Naphtha	County data: Manufacturing output
SIC_20-39out	22020830220000	22020830220000	Degreasing; Handwiping; Alcohols (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020830830000	22020830830000	Degreasing; Handwiping; Chlorofluorocarbons (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020831070000	22020831070000	Degreasing; Handwiping; Dichlorofluoroethane (Hcfc-141B)	County data: Manufacturing output
SIC_20-39out	22020831760000	22020831760000	Degreasing; Handwiping; Glycol Ethers (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020832040000	22020832040000	Degreasing; Handwiping; Ketones (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020832460000	22020832460000	Degreasing; Handwiping; Methylene Chloride (Dichloromethane)	County data: Manufacturing output
SIC_20-39out	22020833000000	22020833000000	Degreasing; Handwiping; Perchloroethylene	County data: Manufacturing output
SIC_20-39out	22020833330000	22020833330000	Degreasing; Handwiping; Terpenes (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020833390000	22020833390000	Degreasing; Handwiping; Toluene/Xylene	County data: Manufacturing output
SIC_20-39out	22020833440000	22020833440000	Degreasing; Handwiping; 1,1,1,-Trichloroethane (Tca)	County data: Manufacturing output
SIC_20-39out	22020833460000	22020833460000	Degreasing; Handwiping; Trichloroethylene (Tce)	County data: Manufacturing output
SIC_20-39out	22020881040000	22020881040000	Degreasing; Handwiping; Degreasing Solvents - Pure (Unspecified)	County data: Manufacturing output
SIC_20-39out	22020881060000	22020881060000	Degreasing; Handwiping; Degreasing Solvents - Blends (Unspecified)	County data: Manufacturing output
SIC_20-39out	22021081020000	22021081020000	Degreasing; Manufacturing Degreasing; Synthetic (Halogenated Organic) Degreasing Solvents (Unspec)	County data: Manufacturing output
SIC_20-39out	22021081500000	22021081500000	Degreasing; Manufacturing Degreasing; Non-Synthetic (Petroleum Based) Degreasing Solvents (Unspec)	County data: Manufacturing output
SIC_20-39out	22021281000000	22021281000000	Degreasing; Maintenance Degreasing; Degreasing Solvents (Unspecified)	County data: Manufacturing output
SIC_70-89emp	22021481020000	22021481020000	Degreasing; Commercial Degreasing; Synthetic (Halogenated Organic) Degreasing Solvents (Unspec)	County data: Services employment
SIC_70-89emp	22021481500000	22021481500000	Degreasing; Commercial Degreasing; Non-Synthetic (Petroleum Based) Degreasing Solvents (Unspec)	County data: Services employment
CATEGORY01	23021890000000	23021890000000	Coatings And Related Process Solvents; Auto Refinishing; Coatings (Unspecified)	County/State data: #1 in report; SIC_752-4emp
SIC_373-out	23022090000000	23022090000000	Coatings And Related Process Solvents; Marine Coatings; Coatings (Unspecified)	County data: Ship and boat building and repairing output
SIC_26-out	23022290000000	23022290000000	Coatings And Related Process Solvents; Paper Coatings; Coatings (Unspecified)	County data: Paper and allied products output
SIC_22-out	23022490000000	23022490000000	Coatings And Related Process Solvents; Fabric Coatings; Coatings (Unspecified)	County data: Textile mill products output
SIC_25-out	23022690000000	23022690000000	Coatings And Related Process Solvents; Metal Furniture And Fixture Coatings; Coatings (Unspecified)	County data: Furniture and fixtures output
SIC_34-out	23022890000000	23022890000000	Coatings And Related Process Solvents; Can And Coil Coatings; Coatings (Unspecified)	County data: Fabricated metal products output
SIC_34-out	23023090000000	23023090000000	Coatings And Related Process Solvents; Metal Parts And Products Coatings; Coatings (Unspecified)	County data: Fabricated metal products output
SIC_25-out	23023290000000	23023290000000	Coatings And Related Process Solvents; Wood Furniture And Fabricated Products Coatings; Coatings (Unspecified)	County data: Furniture and fixtures output
SIC_282-out	23023690000000	23023690000000	Coatings And Related Process Solvents; Plastic Parts; Coatings (Unspecified)	County data: Plastics materials and synthetics output

Table II-5 (continued)

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
SIC_367-out	23023790000000	23023790000000	Coatings And Related Process Solvents; Semiconductor Coatings; Coatings (Unspecified)	County data: Electronic components & accessories output
SIC_372&6out	23023890000000	23023890000000	Coatings And Related Process Solvents; Aircraft And Aerospace Coatings; Coatings (Unspecified)	County data: Aerospace output
SIC_20-39out	23024083000000	23024083000000	Coatings And Related Process Solvents; Thinning And Cleanup Solvent Uses; Thinning And Cleanup Solvents - Coatings (Unspecified)	County data: Manufacturing output
DUR_MFG-out	23099590000000	23099590000000	Coatings And Related Process Solvents; Other; Coatings (Unspecified)	County data: Durables manufacturing output
SIC_27-out	24099580000000	24099580000000	Printing; Other; Solvents (Unspecified)	County data: Printing and publishing output
CATEGORY03	25029282020000	25029282020000	Adhesives and Sealants - Solvent Based	Cty/State: #3 in report; Construction employ & % solvent
SIC_15-17emp	25029282500000	25029282500000	Adhesives and Sealants - Water Based	County data: Construction employment
SIC_20-39out	29999580000000	29999580000000	Other (Cleaning And Surface Coatings); Other; Solvents (Unspecified)	County data: Manufacturing output
CATEGORY05	31030016000000	31030016000000	Oil And Gas Production; Fugitive Losses - Sumps And Pits; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31030216000000	31030216000000	Oil And Gas Production; Fugitive Losses - Valves; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31030416000000	31030416000000	Oil And Gas Production; Fugitive Losses - Fittings; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31030616000000	31030616000000	Oil And Gas Production; Fugitive Losses - Pumps; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31030816000000	31030816000000	Oil And Gas Production; Fugitive Losses - Compressors; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31031016000000	31031016000000	Oil And Gas Production; Fugitive Losses - Well Heads; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31031216000000	31031216000000	Oil And Gas Production; Fugitive Losses - Well Cellars; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31031416000000	31031416000000	Oil And Gas Production; Fugitive Losses - Oil/Water Separators; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31031616000000	31031616000000	Oil And Gas Production; Miscellaneous Fugitive Losses; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31034216000000	31034216000000	Oil And Gas Production; Tertiary Oil Production - Steam Drive Wells; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31034416000000	31034416000000	Oil And Gas Production; Tertiary Oil Production - Cyclic Wells; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31034616000000	31034616000000	Oil And Gas Production; Tertiary Oil Production Wells (Unspecified); Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31034816000000	31034816000000	Oil And Gas Production; Tertiary Oil Production - Pseudo Cyclic Wells; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY05	31035016000000	31035016000000	Oil And Gas Production; Oil Production - Heavy Oil Test Stations; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY04	31035201000000	31035201000000	Oil And Gas Production; Wet Gas Stripping/Field Separator Fugitive Losses; Gaseous Fuel (Unspecified)	Cty data: #4 in report; D.O.G., SIC_492&3emp & SIC_131&2out
CATEGORY04	31035401000000	31035401000000	Oil And Gas Production; Dry Gas Stripping/Field Separator Fugitive Losses; Gaseous Fuel (Unspecified)	Cty data: #4 in report; D.O.G., SIC_492&3emp & SIC_131&2out
CATEGORY04	31099501000000	31099501000000	Oil And Gas Production; Other; Gaseous Fuel (Unspecified)	Cty data: #4 in report; D.O.G., SIC_492&3emp & SIC_131&2out
CATEGORY05	31099516000000	31099516000000	Oil And Gas Production; Other; Crude Oil (Unspecified)	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY37	33031801100000	33031801100000	Petroleum Marketing; Natural Gas Transmission Losses; Natural Gas	County data: #37 in report; SIC_492&3emp & SIC_131&2out
NO_GROWTH	33036611000000	33036611000000	Petroleum Marketing; Tanker Loading; Gasoline (Unspecified)	No growth assumption
NO_GROWTH	33036614000000	33036614000000	Petroleum Marketing; Tanker Loading; Jet Fuel (Unspecified)	No growth assumption
NO_GROWTH	33036615000000	33036615000000	Petroleum Marketing; Tanker Loading; Residual Oil (Unspecified)	No growth assumption
NO_GROWTH	33036616000000	33036616000000	Petroleum Marketing; Tanker Loading; Crude Oil (Unspecified)	No growth assumption
NO_GROWTH	33036811000000	33036811000000	Petroleum Marketing; Barge Loading; Gasoline (Unspecified)	No growth assumption
NO_GROWTH	33036814000000	33036814000000	Petroleum Marketing; Barge Loading; Jet Fuel (Unspecified)	No growth assumption
NO_GROWTH	33036816000000	33036816000000	Petroleum Marketing; Barge Loading; Crude Oil (Unspecified)	No growth assumption
NO_GROWTH	33037016000000	33037016000000	Petroleum Marketing; Lightering; Crude Oil (Unspecified)	No growth assumption
NO_GROWTH	33037211000000	33037211000000	Petroleum Marketing; Ballasting; Gasoline (Unspecified)	No growth assumption
NO_GROWTH	33037216000000	33037216000000	Petroleum Marketing; Ballasting; Crude Oil (Unspecified)	No growth assumption
GAS&OIL-exp	33037411000000	33037411000000	Petroleum Marketing; Fuel Dispensing Tanks - Working Losses; Gasoline (Unspecified)	County data: Gasoline and oil expenditures (bil 92\$)
GAS&OIL-exp	33037611000000	33037611000000	Petroleum Marketing; Fuel Dispensing Tanks - Breathing Losses; Gasoline (Unspecified)	County data: Gasoline and oil expenditures (bil 92\$)

Table II-5 (continued)

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
GAS&OIL-exp	33037811000000	33037811000000	Petroleum Marketing; Vehicle Refueling - Vapor Displacement Losses; Gasoline (Unspecified)	County data: Gasoline and oil expenditures (bil 92\$)
GAS&OIL-exp	33038011000000	33038011000000	Petroleum Marketing; Vehicle Refueling - Spillage; Gasoline (Unspecified)	County data: Gasoline and oil expenditures (bil 92\$)
GAS&OIL-exp	33038211000000	33038211000000	Petroleum Marketing; Bulk Plants/Terminals - Gasoline Storage - Breathing Losses; Gasoline (Unspecified)	County data: Gasoline and oil expenditures (bil 92\$)
GAS&OIL-exp	33038411000000	33038411000000	Petroleum Marketing; Bulk Plants/Terminals - Gasoline Storage - Working Losses; Gasoline (Unspecified)	County data: Gasoline and oil expenditures (bil 92\$)
GAS&OIL-exp	33039011000000	33039011000000	Petroleum Marketing; Tank Cars And Trucks - Working Losses; Gasoline (Unspecified)	County data: Gasoline and oil expenditures (bil 92\$)
GAS&OIL-exp	33099511000000	33099511000000	Petroleum Marketing; Other; Gasoline (Unspecified)	County data: Gasoline and oil expenditures (bil 92\$)
SIC_282-out	41040250620000	41040250620000	Chemical; Rubber And Rubber Products Manufacturing; Synthetic Rubber	County data: Plastics materials and synthetics output
SIC_308-out	41040350180000	41040350180000	Chemical; Fiberglass And Fiberglass Products Manufacturing; Fiberglass	County data: Miscellaneous plastics products, nec output
SIC_308-out	41040450000000	41040450000000	Chemical; Plastics And Plastic Products Manufacturing; Plastics (Unspecified)	County data: Miscellaneous plastics products, nec output
SIC_281&6out	41040620480000	41040620480000	Chemical; Sodium Carbonate (Soda Ash) Production; Sodium Carbonate	County data: Industrial chemicals output
SIC_28-out	41099549990000	41099549990000	Chemical; Other; Chemicals (Unspecified)	County data: Chemicals manufacturing output
SIC_208-out	42040860900000	42040860900000	Food And Agriculture; Wine Fermentation; Wine	County data: Beverages output
SIC_208-out	42041060900000	42041060900000	Food And Agriculture; Wine Aging; Wine	County data: Beverages output
SIC_205-out	42041260120000	42041260120000	Food And Agriculture; Bakeries; Bread/Baked Goods	County data: Bakery products output
SIC_01&02emp	42041860000000	42041860000000	Food And Agriculture; Agricultural Products Processing Losses; Food And Agricultural Products (Unspecified)	County data: Farm employment
SIC_01&02emp	42042060000000	42042060000000	Food And Agriculture; Agricultural Crop Processing Losses; Food And Agricultural Products (Unspecified)	County data: Farm employment
SIC_14-out	43042270780000	43042270780000	Mineral Processes; Sand And Gravel Excavation And Processing; Sand/Aggregate	County data: Nonmetallic minerals, except fuels output
SIC_295&9out	43042470060000	43042470060000	Mineral Processes; Asphaltic Concrete Production; Asphaltic Concrete	County data: Misc. petroleum and coal products output
SIC_14-out	43042670780000	43042670780000	Mineral Processes; Crushed Stone Excavation And Processing (Aggregate Prod.); Sand/Aggregate	County data: Nonmetallic minerals, except fuels output
SIC_10-14out	43042870000000	43042870000000	Mineral Processes; Surface Blasting; Mineral And Metal Products (Unspecified)	County data: Mining output
SIC_327-out	43043070180000	43043070180000	Mineral Processes; Cement Concrete Manufacturing And Fabrication; Cement Concrete	County data: Concrete, gypsum, & plaster products output
SIC_32-out	43099570000000	43099570000000	Mineral Processes; Other; Mineral And Metal Products (Unspecified)	County data: Stone, clay, & glass products output
SIC_334&9out	44044070000000	44044070000000	Metal Processes; Secondary Metal Production; Mineral And Metal Products (Unspecified)	County data: Secdry nonferr & misc primary metal output
SIC_24-out	45099502300000	45099502300000	Wood And Paper; Other; Wood	County data: Lumber and wood products output
SIC_20-39out	49999500000000	49999500000000	Other (Industrial Processes); Other; Material Not Specified	County data: Manufacturing output
SIC_20-39out	49999500100000	49999500100000	Other (Industrial Processes); Other; Hydrocarbon Compounds (Unspecified)	County data: Manufacturing output
POP-NOGROW	51050090000000	51050090000000	Consumer Products; Aerosol Coatings; Coatings (Unspecified)	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090200000	51050090200000	Consumer Products; Aerosol Coatings; Primers (Unspecified)	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090210000	51050090210000	Consumer Products; Aerosol Coatings; Auto Body Primers	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090510000	51050090510000	Consumer Products; Aerosol Coatings; Clear Coatings (Unspecified)	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090590000	51050090590000	Consumer Products; Aerosol Coatings; Flat Coatings (Unspecified)	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090600000	51050090600000	Consumer Products; Aerosol Coatings; Nonflat Coatings (Unspecified)	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090710000	51050090710000	Consumer Products; Aerosol Coatings; High Temperature Coatings	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090730000	51050090730000	Consumer Products; Aerosol Coatings; Metallic Pigmented Coatings	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090770000	51050090770000	Consumer Products; Aerosol Coatings; Ground/Traffic/Marking Coatings	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090800000	51050090800000	Consumer Products; Aerosol Coatings; Fluorescent Coatings	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090810000	51050090810000	Consumer Products; Aerosol Coatings; Art Fixatives And Sealants	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090820000	51050090820000	Consumer Products; Aerosol Coatings; Auto Bumper And Trim Coatings	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090830000	51050090830000	Consumer Products; Aerosol Coatings; Exact Match Engine Enamel	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090840000	51050090840000	Consumer Products; Aerosol Coatings; Exact Match Automotive Coatings	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050090850000	51050090850000	Consumer Products; Aerosol Coatings; Vinyl/Fabric/Leather/Polycarb Coatings	County data: No growth for certain yrs; Population other yrs
POP-NOGROW	51050290000000	51050290000000	Consumer Products; Aerosol Paint Propellants; Coatings (Unspecified)	County data: No growth for certain yrs; Population other yrs

Table II-5 (continued)

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
POP-NOGROW	51050490000000	51050490000000	Consumer Products; Aerosol Paint Solvents; Coatings (Unspecified)	County data: No growth for certain yrs; Population other yrs
CATEGORY06	51050580000000	51050580000000	Consumer Products; Phase I And Ii Consumer Products; Solvents (Unspecified)	County data: #6 in report; Population
CATEGORY06	51050680000000	51050680000000	Consumer Products; Phase Iii Consumer Products; Solvents (Unspecified)	County data: #6 in report; Population
CATEGORY06	51050980000000	51050980000000	Consumer Products; Miscellaneous Consumer Products; Solvents (Unspecified)	County data: #6 in report; Population
CATEGORY06	51051080000000	51051080000000	Consumer Products; Aerosol Product Propellants; Solvents (Unspecified)	County data: #6 in report; Population
CATEGORY06	51051280000000	51051280000000	Consumer Products; Aerosol Product Solvents; Solvents (Unspecified)	County data: #6 in report; Population
CATEGORY06	51051480000000	51051480000000	Consumer Products; Non-Aerosol Solvents; Solvents (Unspecified)	County data: #6 in report; Population
HOUSINGUNITS	51053457000000	51053457000000	Residential Pesticide Aerosol Propellants	County data: regression output using POPULATION data
HOUSINGUNITS	51053657000000	51053657000000	Residential Pesticide Aerosol Ingredients	County data: regression output using POPULATION data
HOUSINGUNITS	51053857000000	51053857000000	Residential Pesticide Non-Aerosol Ingredients	County data: regression output using POPULATION data
HOUSINGUNITS	52052091000000	52052091000000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based (Organic Solvent Based) Coatings (Unspecified)	County data: regression output using POPULATION data
HOUSINGUNITS	52052091050000	52052091050000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Primers, Sealers, And Undercoaters	County data: regression output using POPULATION data
HOUSINGUNITS	52052091060000	52052091060000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Quick Dry Primers, Sealers, And Undercoaters	County data: regression output using POPULATION data
HOUSINGUNITS	52052091100000	52052091100000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Sealers	County data: regression output using POPULATION data
HOUSINGUNITS	52052091120000	52052091120000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Sanding Sealers	County data: regression output using POPULATION data
HOUSINGUNITS	52052091140000	52052091140000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Waterproofing Sealers - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052091160000	52052091160000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Waterproofing Sealers - Opaque	County data: regression output using POPULATION data
HOUSINGUNITS	52052091320000	52052091320000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Stains - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052091340000	52052091340000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Stains - Semitransparent	County data: regression output using POPULATION data
HOUSINGUNITS	52052091360000	52052091360000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Stains - Opaque	County data: regression output using POPULATION data
HOUSINGUNITS	52052091420000	52052091420000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Varnish - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052091440000	52052091440000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Varnish - Semitransparent	County data: regression output using POPULATION data
HOUSINGUNITS	52052091530000	52052091530000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Quick Dry Enamel Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091550000	52052091550000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Lacquer - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052091560000	52052091560000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Lacquer - Opaque	County data: regression output using POPULATION data
HOUSINGUNITS	52052091590000	52052091590000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Flat Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091610000	52052091610000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based High Gloss Nonflat Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091620000	52052091620000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Medium Gloss Nonflat Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091630000	52052091630000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Low Gloss Nonflat Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091640000	52052091640000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Bituminous Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091650000	52052091650000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Concrete Curing Compounds	County data: regression output using POPULATION data

Table II-5 (continued)

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
HOUSINGUNITS	52052091660000	52052091660000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Dry Fog Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091670000	52052091670000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Extreme High Durability Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091680000	52052091680000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Opaque Fire Retardant Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091690000	52052091690000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Floor Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091700000	52052091700000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Form Release Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091710000	52052091710000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based High Temperature Coatings	County data: regression output using POPULATION data
CATEGORY39	52052091720000	52052091720000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Industrial Maintenance Coatings	County/State data: #39 in report; SIC_28-out
HOUSINGUNITS	52052091730000	52052091730000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Metallic Pigmented Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091740000	52052091740000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Roof Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091750000	52052091750000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Swimming Pool Repair Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091760000	52052091760000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Traffic Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052091780000	52052091780000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Wood Preservatives - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052091790000	52052091790000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Oil Based Wood Preservatives - Semitransparent	County data: regression output using POPULATION data
HOUSINGUNITS	52052092000000	52052092000000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Coatings (Unspecified)	County data: regression output using POPULATION data
HOUSINGUNITS	52052092050000	52052092050000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Primers, Sealers, And Undercoaters	County data: regression output using POPULATION data
HOUSINGUNITS	52052092060000	52052092060000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Quick Dry Primers, Sealers, And Undercoaters	County data: regression output using POPULATION data
HOUSINGUNITS	52052092100000	52052092100000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Sealers	County data: regression output using POPULATION data
HOUSINGUNITS	52052092120000	52052092120000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Sanding Sealers	County data: regression output using POPULATION data
HOUSINGUNITS	52052092140000	52052092140000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Waterproofing Sealers - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052092160000	52052092160000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Waterproofing Sealers - Opaque	County data: regression output using POPULATION data
HOUSINGUNITS	52052092320000	52052092320000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Stains - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052092340000	52052092340000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Stains - Semitransparent	County data: regression output using POPULATION data
HOUSINGUNITS	52052092360000	52052092360000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Stains - Opaque	County data: regression output using POPULATION data
HOUSINGUNITS	52052092420000	52052092420000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Varnish - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052092440000	52052092440000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Varnish - Semitransparent	County data: regression output using POPULATION data
HOUSINGUNITS	52052092550000	52052092550000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Lacquer - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052092560000	52052092560000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Lacquer - Opaque	County data: regression output using POPULATION data

Table II-5 (continued)

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
CATEGORY40	52052092590000	52052092590000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Flat Coatings	County/State data: #40 in report; SIC_65-emp
HOUSINGUNITS	52052092610000	52052092610000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based High Gloss Nonflat Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092620000	52052092620000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Medium Gloss Nonflat Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092630000	52052092630000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Low Gloss Nonflat Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092640000	52052092640000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Bituminous Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092650000	52052092650000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Concrete Curing Compounds	County data: regression output using POPULATION data
HOUSINGUNITS	52052092660000	52052092660000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Dry Fog Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092680000	52052092680000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Opaque Fire Retardant Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092690000	52052092690000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Floor Coatings	County data: regression output using POPULATION data
TOT_IND_COAT	52052092720000	52052092720000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Industrial Maintenance Coatings	County/State data: SIC_28-out
HOUSINGUNITS	52052092730000	52052092730000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Metallic Pigmented Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092740000	52052092740000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Roof Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092760000	52052092760000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Traffic Coatings	County data: regression output using POPULATION data
HOUSINGUNITS	52052092780000	52052092780000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Wood Preservatives - Clear	County data: regression output using POPULATION data
HOUSINGUNITS	52052092790000	52052092790000	Architectural Coatings And Related Process Solvents; Architectural Coatings; Water Based Wood Preservatives - Semitransparent	County data: regression output using POPULATION data
HOUSINGUNITS	52052283000000	52052283000000	Architectural Coatings And Related Process Solvents; Thinning And Cleanup Solvents; Thinning And Cleanup Solvents - Coatings (Unspecified)	County data: regression output using POPULATION data
CATEGORY07	53053032250000	53053032250000	Pesticides/Fertilizers; Agricultural Pesticides; Methyl Bromide	#7 in report; DPR and Farm (SIC 01, 02) output
CATEGORY08	53053057020000	53053057020000	Pesticides/Fertilizers; Agricultural Pesticides; Non - Methyl Bromide Pesticides	#8 in report; DPR and Farm (SIC 01, 02) output
CATEGORY08	53053057100000	53053057100000	Pesticides/Fertilizers; Agricultural Pesticides; Synthetic Pesticides	#8 in report; DPR and Farm (SIC 01, 02) output
CATEGORY08	53053057500000	53053057500000	Pesticides/Fertilizers; Agricultural Pesticides; Non-Synthetic Pesticides	#8 in report; DPR and Farm (SIC 01, 02) output
CATEGORY08	53053257100000	53053257100000	Pesticides/Fertilizers; Agricultural Residual Pesticides; Synthetic Pesticides	#8 in report; DPR and Farm (SIC 01, 02) output
CATEGORY08	53053257500000	53053257500000	Pesticides/Fertilizers; Agricultural Residual Pesticides; Non-Synthetic Pesticides	#8 in report; DPR and Farm (SIC 01, 02) output
STRUCTMETHYL	53054032250000	53054032250000	Pesticides/Fertilizers; Structural Pesticides; Methyl Bromide	1990-2005: DPR; pre-90: Nonresident fixed invest
STRUCTNONMET	53054057020000	53054057020000	Pesticides/Fertilizers; Structural Pesticides; Non - Methyl Bromide Pesticides	1990-1998: DPR; other yrs: Housing expenditures
STRUCTNONMET	53054057100000	53054057100000	Pesticides/Fertilizers; Structural Pesticides; Synthetic Pesticides	1990-1998: DPR; other yrs: Housing expenditures
STRUCTNONMET	53054057500000	53054057500000	Pesticides/Fertilizers; Structural Pesticides; Non-Synthetic Pesticides	1990-1998: DPR; other yrs: Housing expenditures
STRUCTNONMET	53054257100000	53054257100000	Pesticides/Fertilizers; Structural Residual Pesticides; Synthetic Pesticides	1990-1998: DPR; other yrs: Housing expenditures
STRUCTNONMET	53054257500000	53054257500000	Pesticides/Fertilizers; Structural Residual Pesticides; Non-Synthetic Pesticides	1990-1998: DPR; other yrs: Housing expenditures
SIC_15-17emp	53054430920000	53054430920000	Pesticides/Fertilizers; Creosote Application; Creosote	County data: Construction employment
SIC_15-17emp	54056004000000	54056004000000	Asphalt Paving; Cutback Asphalt; Asphalt	County data: Construction employment
SIC_15-17emp	54056204000000	54056204000000	Asphalt Paving; Road Oils; Asphalt	County data: Construction employment
SIC_15-17emp	54056404000000	54056404000000	Asphalt Paving; Hot-Mix Asphalt; Asphalt	County data: Construction employment
SIC_15-17emp	54056604000000	54056604000000	Asphalt Paving; Emulsified Asphalt; Asphalt	County data: Construction employment
SIC_15-17emp	54059004000000	54059004000000	Asphalt Roofing Operations	County data: Construction employment
SIC_15-17emp	54099504000000	54099504000000	Asphalt Paving; Other; Asphalt	County data: Construction employment

Table II-5 (continued)

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
HOUS_AEO_R4	61060002300000	61060002300000	Residential Fuel Combustion; Wood Combustion - Wood Stoves; Wood	County data: HOUSINGUNITS adjusted by AEO Renewables data
CATEGORY09	61060202300000	61060202300000	Residential Fuel Combustion; Wood Combustion - Fireplaces; Wood	County data: #9 in report; Fireplaces/occupied housing units
HOUS_AEO_R4	61060402300000	61060402300000	Residential Fuel Combustion; Wood Combustion (Unspecified); Wood	County data: HOUSINGUNITS adjusted by AEO Renewables data
CATEGORY10	61060601100000	61060601100000	Residential Fuel Combustion; Fuel Combustion - Space Heating; Natural Gas	County data: #10 in report; Population
HOUS_AEO_R1	61060612200000	61060612200000	Residential Fuel Combustion; Fuel Combustion - Space Heating; Distillate Oil (Unspecified)	County data: HOUSINGUNITS adjusted by AEO Distillate Oil
CATEGORY11	61060801100000	61060801100000	Residential Fuel Combustion; Fuel Combustion - Water Heating; Natural Gas	County data: #11 in report; Real disposable income
HOUS_AEO_R3	61061001100000	61061001100000	Residential Fuel Combustion; Fuel Combustion - Cooking; Natural Gas	County data: HOUSINGUNITS adjusted by AEO Natural Gas data
HOUS_AEO_R3	61099501100000	61099501100000	Residential Fuel Combustion; Other; Natural Gas	County data: HOUSINGUNITS adjusted by AEO Natural Gas data
HOUS_AEO_R2	61099501200000	61099501200000	Residential Fuel Combustion; Other; Liquefied Petroleum Gas (Lpg)	County data: HOUSINGUNITS adjusted by AEO LPG data
CATEGORY12	62061454000000	62061454000000	Farming Operations; Tilling Dust; Dust	Cty/State: #12 in rept; SIC_7-emp, SIC_01&02emp, SIC_352-emp
CATEGORY19	62061554000000	62061554000000	Farming Operations; Harvest Operations - Dust; Dust	County data: #19 in report; Population & SIC_352-emp
CATEGORY13	62061654000000	62061654000000	Farming Operations; Cattle Feedlot Dust; Dust	Cty data: #13 in report; CDFA; post-1998: no growth assumed
NO_GROWTH	62061802620000	62061802620000	Farming Operations; Livestock Wastes; Agricultural Waste	No growth assumption
CATEGORY19	62061954000000	62061954000000	Farming Operations; Growing Season Planting Operations - Dust; Dust	County data: #19 in report; Population & SIC_352-emp
CATEGORY19	62062054000000	62062054000000	Farming Operations; Growing Season Cultivation Operations - Dust; Dust	County data: #19 in report; Population & SIC_352-emp
CATEGORY14	63062254000000	63062254000000	Construction And Demolition; Building Construction Dust - Residential; Dust	County/State data: #14 in rept; SIC_15-17out & SIC_15-17emp
CATEGORY15	63062454000000	63062454000000	Construction And Demolition; Building Construction Dust- Commercial; Dust	County/State data: #15 in rept; SIC_15-17out & SIC_15-17emp
SIC_15-17emp	63062654000000	63062654000000	Construction And Demolition; Building Construction Dust- Industrial; Dust	County data: Construction employment
SIC_15-17emp	63062854000000	63062854000000	Construction And Demolition; Building Construction Dust - Institutional; Dust	County data: Construction employment
SIC_91-97emp	63063054000000	63063054000000	Construction And Demolition; Building Construction Dust - Governmental; Dust	County data: Government employment
SIC_15-17emp	63063254000000	63063254000000	Construction And Demolition; Building Construction Dust (Unspecified); Dust	County data: Construction employment
SIC_15-17emp	63063454000000	63063454000000	Construction And Demolition; Road Construction Dust; Dust	County data: Construction employment
ON-ROAD_VMT	64063554000000	64063554000000	Paved Road Dust; Paved Road Travel Dust - Freeways; Dust	Total on-road Vehicle Miles Traveled
ON-ROAD_VMT	64063654000000	64063654000000	Paved Road Dust; Paved Road Travel Dust (Unspecified); Dust	Total on-road Vehicle Miles Traveled
ON-ROAD_VMT	64063754000000	64063754000000	Paved Road Dust; Paved Road Travel Dust - Major Streets; Dust	Total on-road Vehicle Miles Traveled
ON-ROAD_VMT	64063954000000	64063954000000	Paved Road Dust; Paved Road Travel Dust - Collector Streets; Dust	Total on-road Vehicle Miles Traveled
ON-ROAD_VMT	64064154000000	64064154000000	Paved Road Dust; Paved Road Travel Dust - Local Streets; Dust	Total on-road Vehicle Miles Traveled
CATEGORY17	64563854000000	64563854000000	Unpaved Road Dust; Unpaved Road Travel Dust- City And County Roads; Dust	#17 in report; Light & Medium Duty Truck VMT
CATEGORY18	64564054000000	64564054000000	Unpaved Road Dust; Unpaved Road Travel Dust- U.S. Forest And Park Roads; Dust	County data: #18 in report: Pop & Forestry & log occupations
FOREST_LOG	64564254000000	64564254000000	Unpaved Road Dust; Unpaved Road Travel Dust- Timber Production Roads; Dust	County data: Forestry and logging workers (number)
CATEGORY18	64564454000000	64564454000000	Unpaved Road Dust; Unpaved Road Travel Dust- B.L.M. Roads; Dust	County data: #18 in report: Pop & Forestry & log occupations
CATEGORY19	64564654000000	64564654000000	Unpaved Road Dust; Unpaved Road Travel Dust- Farm Roads; Dust	County data: #19 in report; Population & SIC_352-emp
LDT&MDT_VMT	64564854000000	64564854000000	Unpaved Road Dust; Unpaved Road Travel Dust (Unspecified); Dust	Light & Medium Duty Truck vehicle miles traveled
CATEGORY20	65065054000000	65065054000000	Fugitive Windblown Dust; Dust From Agricultural Lands (Non-Pasture); Dust	County data: #20 in report; Population & SIC_352-emp
CATEGORY45	65065154000000	65065154000000	Fugitive Windblown Dust; Dust From Pasture Lands; Dust	County data: #45 in report; Population & SIC_20-emp
CATEGORY21	65065254000000	65065254000000	Fugitive Windblown Dust; Dust From Unpaved Roads And Associated Areas; Dust	Cty/State: #21 in report; LDT&MDT_VMT and Population
HOUSINGUNITS	66065602000000	66065602000000	Fires; Structural Fires; Solid Fuel (Unspecified)	County data: regression output using POPULATION data
POPULATION	66065802000000	66065802000000	Fires; Automobile Fires; Solid Fuel (Unspecified)	County data: Population (thousands)
CATEGORY43	67066002620000	67066002620000	Waste Burning And Disposal; Agricultural Burning - Prunings; Agricultural Waste	County data: #43 in report; Population & SIC_352-emp
CATEGORY44	67066202620000	67066202620000	Waste Burning And Disposal; Agricultural Burning - Field Crops; Agricultural Waste	County data: #44 in report; Population & SIC_352-emp
CATEGORY45	67066402000000	67066402000000	Waste Burning And Disposal; Range Improvement; Solid Fuel (Unspecified)	County data: #45 in report; Population & SIC_20-emp
NO_GROWTH	67066602000000	67066602000000	Waste Burning And Disposal; Forest Management; Solid Fuel (Unspecified)	No growth assumption
CATEGORY47	67066802000000	67066802000000	Waste Burning And Disposal; Weed Abatement; Solid Fuel (Unspecified)	County data: #47 in report; Population & SIC_352-emp
CATEGORY48	67067002000000	67067002000000	Waste Burning And Disposal; Non-Agricultural Open Burning; Solid Fuel (Unspecified)	County data: #48 in report; Rural-Pop.; Urban-no growth

Table II-5 (continued)

GROWTH PARAMETER	SIC	EIC	EIC DESCRIPTION	PARAMETER COMMENT
POPULATION	67099502400000	67099502400000	Waste Burning And Disposal; Other; Solid Waste (Unspecified)	County data: Population (thousands)
CATEGORY49	69068060000000	69068060000000	Cooking; Commercial Charbroiling	County/State data: #49 in report; SIC_58-out
CATEGORY49	69068260000000	69068260000000	Cooking; Deep Fat Frying	County/State data: #49 in report; SIC_58-out
POPULATION	69068460000000	69068460000000	Other (Miscellaneous Processes); Other; Material Not Specified	County data: Population (thousands)
NO_GROWTH	91091002500001	91091002500001	Biogenic Sources; Agricultural Biogenics; Biomass (Unspecified)	No growth assumption
NO_GROWTH	91091002500002	91091002500002	Biogenic Sources; Agricultural Biogenics; Biomass (Unspecified)	No growth assumption
NO_GROWTH	91091202500000	91091202500000	Biogenic Sources; Non-Agricultural Biogenics; Biomass (Unspecified)	No growth assumption
NO_GROWTH	92092001000000	92092001000000	Geogenic Sources; Petroleum Seeps; Gaseous Fuel (Unspecified)	No growth assumption
NO_GROWTH	92092016000000	92092016000000	Geogenic Sources; Petroleum Seeps; Crude Oil (Unspecified)	No growth assumption
NO_GROWTH	93093002000000	93093002000000	Wildfires; Grass And Woodland Fires; Solid Fuel (Unspecified)	No growth assumption
NO_GROWTH	93093202000000	93093202000000	Wildfires; Timber And Brush Fires; Solid Fuel (Unspecified)	No growth assumption

Table III-1. Details on Regression-Based Approaches

SOURCE CATEGORY	EQUATION	CORRELATED VARIABLE(S)	ADJUSTED r ²	T-STATISTIC(S)
1) Auto Refinishing	y = .801 + .194x Base yr = 1987	Automobile parking, and repair services employment	0.932	7.464
2) Industrial Coatings, Unspecified	y = -.518 + 1.484 x Base yr = 1985	Durables manufacturing output	0.931	13.25
3) Solvent-Based Adhesives and Sealants	y = -.399 + 1.558x Base yr = 1970	Construction – employment (to estimate total adhesives and sealants)	0.922	17.86
4) Oil and Gas Production, Other, Gaseous Fuel (unspecified)	y = 2.161 - 1.67x ₁ + .518x ₂ Base yr = 1997	x ₁ = Gas utilities – employment x ₂ = Crude petrol., nat. gas, & gas liquids – output	0.986	x ₁ = -6.183 x ₂ = 4.855
5) Oil and Gas Production, Other, Crude Oil	y = .887 + .317x ₁ - .278x ₂ Base yr = 1970	x ₁ = Crude petrol., nat. gas, & gas liquids -employ x ₂ = Pipelines, excluding nat. gas – employ.	0.878	x ₁ = 14.03 x ₂ = -8.408
6) Consumer Products, Non-Aerosol Solvents	y = -1.395 + 2.383x Base yr = 1989	Population	0.990	20.16
Structural Pesticides-Methyl Bromide	y = 5.917 + 1.870x ₁ - 6.807x ₂ Base yr = 1990	x ₁ = Nonresidential Fixed Investment x ₂ = Population	0.979	x ₁ = 10.68 x ₂ = -10.27
8) Agricultural Pesticides-Non-Methyl Bromide	y = -.137 + 1.138x Base yr = 1990	Farm – output	0.916	9.395
Structural Pesticides-Non-Methyl Bromide	y = -.533 + 1.559x Base yr = 1990	Housing expenditures	0.658	4.051
9) Wood Consumption-Fireplaces	y = .151 + .835x Base yr = 1980	Population (to estimate housing units)	0.996	67.42
10) Residential Natural Gas Combustion-Space Heating	y = 1.323 - .264x Base yr = 1970	Population	0.936	-26.15
11) Residential Natural Gas Combustion-Water Heating	y = .915 + .205x Base yr = 1970	Real Disposable Income	0.912	22.13
12) Farming Operations, Tilling Dust	y = -.173 - .436x ₁ + .758x ₂ + .813x ₃ Base yr = 1986	x ₁ = Agricultural services – employment x ₂ = Farm and garden machinery – employ x ₃ = Farm – employment	0.854	x ₁ = -6.380 x ₂ = 4.200 x ₃ = 2.663
14) Building Construction Dust, Residential	y = -1.751 + 4.277x ₁ - 1.53x ₂ Base yr = 1980	x ₁ = Construction output x ₂ = Construction employment	0.893	x ₁ = 12.18 x ₂ = -7.091
15) Building Construction Dust, Commercial	y = -.698 + 4.143x ₁ - 2.324x ₂ Base yr = 1980	x ₁ = Construction output x ₂ = Construction employment	0.863	x ₁ = 10.73 x ₂ = -9.086
17) Unpaved Road Travel Dust-City and County Roads	y = 1.251 - .268x Base yr = 1981	LDT & MDT Vehicle miles traveled	0.932	-12.30
18) Unpaved Road Travel Dust-Bureau of Land Management and Bureau of Indian Affairs Roads	y = -.402 + 2.517x ₁ - 1.262x ₂ Base yr = 1981	x ₁ = Population x ₂ = Forestry and logging – employment	0.761	x ₁ = 7.039 x ₂ = -2.505
19) Unpaved Road Travel Dust-Farm Roads	y = 1.106 - .479x ₁ + .361x ₂ Base yr = 1986	x ₁ = Population x ₂ = Farm and garden machinery – employ	0.793	x ₁ = -5.098 x ₂ = 4.111
20) Fugitive Windblown Dust-Dust From Agricultural Lands (Non-Pasture)	y = 1.370 - .834x ₁ + .461x ₂ Base yr = 1986	x ₁ = Population x ₂ = Farm and garden machinery – employ	0.843	x ₁ = -6.660 x ₂ = 3.937

Table III-1 (continued)

SOURCE CATEGORY	EQUATION	CORRELATED VARIABLE(S)	ADJUSTED r ²	T-STATISTIC(S)
21) Fugitive Windblown Dust from Unpaved Roads and Associated Areas	$y = -4.48 - 3.554x_1 + 9.056x_2$ Base yr = 1987	$x_1 = \text{LDT\&MDT vehicle miles traveled}$ $x_2 = \text{Population}$	0.911	$x_1 = -5.230$ $x_2 = 4.341$
22) Electric Generation, Natural Gas, Boilers > 100 MMBtu except Tangential	$y = -1.281 + 2.188x$ Base yr = 2000	Electric utilities - output	0.984	$x_1 = 35.63$
23) Electric Generation, Natural Gas, Boilers > 100 MMBtu except Tangential	Same data as category 22			
24) Cogeneration, Fuel Unspecified	$y = 0.424 + .282x_1 + .294x_2$ Base yr = 2000	$x_1 = \text{Electric utilities - output}$ $x_2 = \text{Durables manufacturing - employment}$	0.993	$x_1 = 54.18$ $x_2 = 4.132$
35) Class II and III Landfills, Municipal Solid Waste	$y = .740 + 1.246x_1 - .970x_2$ Base yr = 1989	$x_1 = \text{Gross regional product}$ $x_2 = \text{Population}$	0.964	$x_1 = 11.54$ $x_2 = -4.095$
36) Degreasing, Cold Cleaning, Petroleum Naphtha	$y = 1.477 - 2.525x_1 + 1.913x_2$ Base yr = 1987	$x_1 = \text{Auto park., repair, \& services-employ}$ $x_2 = \text{Total manufacturing output}$	0.910	$x_1 = -3.488$ $x_2 = 2.310$
37) Natural Gas Transmission Losses, Natural Gas	Same data as category 4			
38) Cement Manufacturing (Dry Process)	$y = -.065 + .939x$ Base yr = 1980	Hydraulic cement manufacturing output	0.739	7.013
39) Architectural Coatings, Oil-Based Industrial Maintenance Coatings	$y = -.070 + 3.368x_1 - 2.305x_2$ Base yr = 1982	$x_1 = \text{Chemicals sector output}$ $x_2 = \text{Petroleum refining sector output}$	0.860	$x_1 = 5.381$ $x_2 = -2.262$
40) Architectural Coatings, Water-Based Flat Coatings	$y = -.129 + 1.173x$ Base yr = 1985	Real estate sector employment	0.798	7.23
43) Agricultural Burning-Prunings	Same data as category 19			
44) Agricultural Burning-Field Crops	$y = 1.956 - 1.586x_1 + 0.617x_2$ Base yr = 1986	$x_1 = \text{Population}$ $x_2 = \text{Farm and garden machinery - employment}$	0.883	$x_1 = -8.506$ $x_2 = 3.538$
45) Range Improvement	$y = 1.164 - 0.358x_1 + 0.198x_2$ Base yr = 1988	$x_1 = \text{Population}$ $x_2 = \text{Food manufacturing - employment}$	0.880	$x_1 = -8.555$ $x_2 = 2.714$
49) Commercial Charbroiling	$y = -1.074 + 2.007x$ Base yr = 1972	Eating and drinking places sector output	0.957	10.55
47) Weed Abatement	Same data as category 20			
50) Internal Combustion Engines, Industrial, Natural Gas, Reciprocating	$y = -.026 + .229x_1 + .794x_2$ Base yr = 2000	$x_1 = \text{Crude petrol, nat gas \& gas liquids - output}$ $x_2 = \text{Gas utilities - employment}$	0.907	$x_1 = 5.583$ $x_2 = 3.183$
Total Electric Utility Fuel Use	$y = -.410 + 1.359x$ Base yr = 2000	Electric utilities - output	0.985	35.90

Table IV-1. Number of Growth Parameters Included in Each Forecast Scenario

GROWTH SCENARIO	APPROACH USED TO DEVELOP GROWTH SURROGATE DATA		
	REMI SOCIOECONOMIC DATA	REMI/AEO DATA	REGRESSION-BASED OR ARB-SUPPLIED FORECAST DATA/ ASSUMPTIONS
Best Estimate	198	836	44
High	198	836	0
Low	198	836	0
Cyclic	198	836	0

**Table IV-2. List of Growth Parameters Only Included
in Best Estimate Forecast Scenario**

GROWTH PARAMETER	PARAMETER COMMENT
CATEGORY01	County/State data: #1 in report; SIC_752-4emp
CATEGORY03	Cty/State: #3 in report; Construction employ & % solvent
CATEGORY04	Cty data: #4 in report; D.O.G., SIC_492&3emp & SIC_131&2out
CATEGORY05	Cty data: #5 in report; D.O.G., SIC_131&2emp & SIC_46-emp
CATEGORY06	County data: #6 in report; Population
CATEGORY07	#7 in report; DPR and Farm (SIC 01, 02) output
CATEGORY08	#8 in report; DPR and Farm (SIC 01, 02) output
CATEGORY09	County data: #9 in report; Fireplaces/occupied housing units
CATEGORY10	County data: #10 in report; Population
CATEGORY11	County data: #11 in report; Real disposable income
CATEGORY12	Cty/State: #12 in rept; SIC_7-emp, SIC_01&02emp, SIC_352-emp
CATEGORY13	Cty data: #13 in report; CDFA; post-1998: no growth assumed
CATEGORY14	County/State data: #14 in rept; SIC_15-17out & SIC_15-17emp
CATEGORY15	County/State data: #15 in rept; SIC_15-17out & SIC_15-17emp
CATEGORY17	#17 in report; Light & Medium Duty Truck VMT
CATEGORY18	County data: #18 in report: Pop & Forestry & log occupations
CATEGORY19	County data: #19 in report; Population & SIC_352-emp
CATEGORY20	County data: #20 in report; Population & SIC_352-emp
CATEGORY21	Cty/State: #21 in report; LDT&MDT_VMT and Population
CATEGORY22	#22 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY23	#23 in report; post-2000: CEC nat gas & regress SIC_491&3out
CATEGORY24	County/State data: #24 in report; SIC_491&3out & DUR_MFG-emp
CATEGORY35	County data: #35 in report; IWMB and regress GRP(bil 92\$)
CATEGORY36	Cty/State data: #36 in report; SIC_752-4emp & SIC_20-39out
CATEGORY37	County data: #37 in report; SIC_492&3emp & SIC_131&2out
CATEGORY38	County/State data: #38 in report; regress using SIC_324-out
CATEGORY40	County/State data: #40 in report; SIC_65-emp
CATEGORY43	County data: #43 in report; Population & SIC_352-emp
CATEGORY44	County data: #44 in report; Population & SIC_352-emp
CATEGORY45	County data: #45 in report; Population & SIC_20-emp
CATEGORY47	County data: #47 in report; Population & SIC_352-emp
CATEGORY49	County/State data: #49 in report; SIC_58-out
CATEGORY50	Cty/State data: #50 in report; SIC_131&2out & SIC_492&3emp
HOUS_AEO_R1	County data: HOUSINGUNITS adjusted by AEO Distillate Oil
HOUS_AEO_R2	County data: HOUSINGUNITS adjusted by AEO LPG data
HOUS_AEO_R3	County data: HOUSINGUNITS adjusted by AEO Natural Gas data
HOUS_AEO_R4	County data: HOUSINGUNITS adjusted by AEO Renewables data
HOUSINGUNITS	County data: regression output using POPULATION data
LDT&MDT_VMT	Light & Medium Duty Truck vehicle miles traveled
NO_GROWTH	No growth assumption
NONGAS_UTIL	Total utility fuel excl nat gas-CEC & EIA; post-2020=2020
ON-ROAD_VMT	Total on-road Vehicle Miles Traveled
STRUCTMETHYL	1990-2005: DPR; pre-90: Nonresident fixed invest
TOTAL_UTIL	Total utility fuel use from CEC, EIA, & regress-SIC_491&3out

APPENDIX A
REMI ECONOMIC MODELING BACKGROUND MATERIALS

APPENDIX B
SAMPLE FRESNO GROWTH ACTIVITY PROFILE (GAP) DATA
